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ABSTRACT

This report presents projections on teacher supply and demand in Australia. Section 1 introduces the report. Section 2 examines the nature and scope of the projections. Section 3 discusses uses and interpretations of such projections and their findings, offering constructive responses. Section 4 outlines the historical context of school enrollments, teacher numbers, and teacher education in Australia. Section 5 presents a national overview of the situation through the 1990s and offers findings of the projections in this report and a state-by-state summary. Tables and figures provide data on such areas as: school students, 1905-2005; teachers, all people with teaching qualifications, and all people in Australia 1996, age 25-64 years; students and teachers in Australian schools, 1955-2005; initial teacher education commencements, 1970-2000; projected surplus/shortage as a percentage of total primary and secondary teachers; projected primary and secondary supply as a percentage of projected demand; student-teacher ratios, 1990, 1995, and 1999; commencing education students, 1991 and 1998; and proportion of those with primary and secondary teaching qualifications who are teaching, 1996. (Contains 20 references.) (SM)

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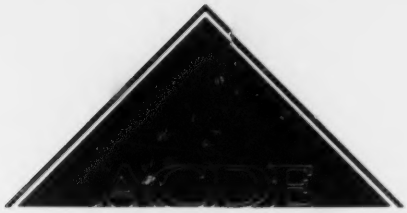

Australian Council of Deans of Education

Teacher supply and demand to 2005

projections and context

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Barbara Preston

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Teacher supply and demand to 2005: projections and context

A report commissioned by the Australia Council of Deans of Education

Barbara Preston

July 2000

Australian Council of Deans of Education

Canberra

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Preface

This report follows previous reports of projections of teacher supply and demand that I have prepared on a consultancy basis for the Australian Council of Deans of Education (see, for example, Preston 1997 and 1998).

The projections are prepared primarily to inform the planning of primary and secondary initial teacher education intakes in universities. They may also be useful for school authorities (and the teaching profession) in planning future recruitment strategies, assessing the implications of changes in practices such as staffing ratios and school starting age, and determining the need to improve the attractiveness of teaching and to provide support for teachers to encourage their retention (in particular locations or specialisations, or overall).

Teacher supply and demand projections can be controversial or problematic because of the adversarial or publicly visible ways in which they may be used. Such uses are understandable and often quite legitimate, and should not preclude the development and use of high quality projections. Indeed, high quality projections may ultimately lead to better outcomes in adversarial contexts as well as in the establishment of sound policy. After all, good policy is evidence-based policy, and evidence-based policy needs high quality, timely policy-ready research.

The projections in this report are prepared within tight resource constraints. Optimal projections require resources of time, expertise and quality data. They also require effective collaboration among stakeholders. That includes nongovernment as well as government school authorities, teacher educators, higher education policy-makers, and the teaching profession.

I thank deans and faculty of education staff who provided comprehensive initial teacher education graduate projections, and school authority officers and others who have provided information and comment.

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July 2000

Abbreviations

ABS	Australian Bureau of Statistics
ACDE	Australian Council of Deans of Education - the peak organisation of those responsible for initial teacher education (and other teaching and research) in Australian higher education institutions
CESCEO	Conference of Education Systems Chief Executive Officers - the peak organisation representing those responsible for government school systems in Australia
DETYA	Commonwealth (Federal) Department of Education, Training and Youth Affairs
FTE	Full time equivalent
MCEETYA	Ministerial Council on Education, Employment, Training and Youth Affairs - the organisation of all Commonwealth, State and Territory ministers responsible, among other things, for schools and higher education (including teacher education)
PTR	Pupil-teacher ratio – the number of school students divided by the number of teachers within the system or jurisdiction as a whole

1. Introduction to reading the report

The detailed tables of projections that are the core of this report are tables 1 to 20 in the second half of the document. They are not straightforward to interpret without an understanding of their nature, scope and methodology, and I suggest that section 2 on the nature and scope of the projections, and the methodological notes (section 6), at least, are read before the projections are commented on.

Section 3 discusses some of the uses and interpretations of such projections and their findings, and constructive responses to them.

Section 4 outlines the historical context of school enrolments, teacher numbers, and teacher education in Australia.

Section 5 begins with a national overview of the situation through the 1990s and the findings of the projections in this report, followed by a state-by-state summary. Tables C to F at the end of this section summarise the projected surpluses or shortages as a percentage of total teachers, and supply as a percentage of demand.

2. Nature and scope of the projections

The nature and scope of the projections in this report need to be understood for their effective use, and for appropriate critique of them and alternative projections.

First, they are projections (not predictions or forecasts) based on certain explicit assumptions. The actual outcomes may be different to the projections for many reasons, including actions taken by stakeholders.

Second, the projections are at a general, state-wide level, and do not disaggregate by specialisation, by geographic location within States or Territories, or by teacher quality – such matters are important and should be taken up, but are outside the scope of this report.

Third, the model used is comprehensive in that all relevant matters are taken into account, even when estimates for input values are hard to make. For example, sources of supply other than recent graduates are taken into account, and demand covers nongovernment as well as government schools. A projections model must be comprehensive if supply and demand are to be compared and conclusions drawn about future shortfalls or surpluses.

Fourth, the best possible data and other information has been sought and utilised (within the resource constraints of the project).

Fifth, the model itself is transparent, and alternative scenarios can readily be modeled if new information becomes available, if different assumptions are made, or if relevant policy changes are planned.

These features of the projections are discussed in the following sub-sections.

2.1 Projections, not predictions

This report is concerned with projections, not forecasts or predictions. Projections indicate what the future is likely to be, based on certain explicit assumptions.

The projections in this report do not make assumptions about action by stakeholders to prevent or ameliorate projected shortfalls or surpluses. This is quite proper as the projections are intended to inform, rather than pre-empt, policy.

It is a good thing if the actual outcome differs from that projected because school authorities, universities or other stakeholders have taken action to prevent or ameliorate projected shortfalls or surpluses. In recent years some universities, informed by past projections, have been able to adjust intakes. This is notable in Tasmania, where there have been very significant fluctuations in the demand for primary and secondary teachers as the small cohort resulting from a change in school starting age has moved through primary and now secondary school, and the university adjusted intakes into primary and secondary initial teacher education programs to somewhat ameliorate the projected imbalances. Western Australia will experience a similar pattern of fluctuating demand over the period to around 2015.

Many school authorities have been much more active in their recruitment efforts recently than in previous years. Interstate recruitment, improving incentives for hard-to-staff positions, providing incentives for early return from leave, employment of teachers who are not (yet) fully qualified, and other strategies can all help to prevent shortfalls. However, measures are just short term if they simply bring forward employment that would otherwise occur at a later date, and there are risks for the quality of student learning if less than fully qualified or adequately competent teachers are employed.

When stakeholders generally expect surpluses or shortfalls there are commonly a range of automatic or normal ameliorating processes. For example, when surpluses are expected, graduates might look around for alternative employment (such as a period of teaching interstate or overseas); school authorities might make leave more readily available and take the opportunity to encourage early retirement to decrease the proportion of older teachers in their workforce; universities might decrease intakes, and there might be reduced demand for initial teacher education from students. When shortages are expected, graduates might refuse alternative opportunities in expectation of an ideal teaching position; school authorities might increase recruitment activities within and outside their State/Territory, implement strategies to improve the attractiveness of teaching, and place restrictions on access to leave; universities might increase intakes; and there might be increased demand for places in initial teacher education.

In contrast to such ameliorating processes, there can also be responses that exacerbate shortfalls or surpluses. In the past, when extended leave was not as readily available, it appears that teachers' perceptions of future re-entry prospects were important in their decisions regarding resignation in a way that exacerbated, rather than ameliorated, expected surpluses (or shortfalls):

> It seems likely that the *expectation* that it would be difficult to re-enter teaching was a major factor in the decline in wastage rates of women teachers [in the late 1970s]. Once that expectation was acted on, and wastage began to fall, the difficulty of re-entry increased in reality, reinforcing expectations. (Centre for Policy Studies, Monash University 1981, p. 36, with reference to Preston 1980, pp. 37-38)

There can be other exacerbating responses to shortfalls or surpluses. One of the most important involves teachers' responses to deteriorating professional working conditions in situations of significant shortage in their working environment. This was certainly a factor during the chaotic shortages of the late 1960s when many unqualified and poorly prepared teachers were employed. Experienced teachers found it stressful and demoralising to work with colleagues who were less than competent, and many resigned when they otherwise would have stayed in the profession. An inadequate supply of qualified graduates and potential re-entrants meant that more unqualified teachers were employed and the vicious circle continued until qualifications requirements (for example, registration) were instituted (in some jurisdictions) and the demand for new teachers lessened for demographic reasons. Recent research by Fetler in California (1997a) confirms this pattern of employment of poorly prepared teachers exacerbating shortages – as well as not providing quality teaching for students. He argues:

> . . .The quality of teacher preparation and the quantity of available teachers are not independent. A traditional interpretation of this statement is that higher preparation standards, by limiting access, threaten the supply of teachers and the staffing of schools. . . .
>
> Given the findings of this study, a different interpretation and policy seems plausible. Teachers who are more thoroughly prepared to meet the specific needs of schools may persist longer in their jobs . . . Higher retention rates of qualified teachers would result in the establishment of a more stable, satisfied, and highly competent workforce, slowing the revolving door at school district offices, and reducing the need for emergency permit hiring. An additional, perhaps more important, benefit is that better prepared teachers should be more effective in their jobs and assist more students to higher levels of attainment. . . .
>
> It would be unfortunate if the projected need for more teachers were to cause an erosion of standards for teacher preparation. This scenario leads to lower student performance, less job satisfaction, higher teacher attrition, increased public discontent, and further erosion of standards. (p. 11)

School authorities are generally committed in Australia to employing only fully qualified teachers for on-going positions. However, some of those without the discipline of a registration board or similar structure, allow the employment of teachers without appropriate qualifications for casual and short term positions, and on-going positions in hard-to-staff schools may be filled by a series of short term teachers who are not appropriately qualified (including who are teaching out-of-field even where there are high entry standards). Lowering standards and employing any 'warm body' can make shortages evaporate in the short term, but in the longer term are sure to exacerbate them. These issues are taken up again later in this report.

While some automatic or normal developments or responses can be reasonably expected, they cannot be assumed, and are not incorporated in the main projections. Rather, the projections provide the basis for stakeholders to make decisions that may lessen shortages or surpluses, or improve their circumstances. However, scenarios that do assume certain actions or developments can be modeled (see section 2.5).

Recognition of the operation of feedback loops, such as those described above, is essential to an understanding that *the projections in this report are not intended to be predictions*. As Peter Galbraith has commented (1999, p. 7), 'complex systems continually defeat attempts to predict their future state'.

In addition to any internal feedback loops, there are uncertainties about inputs that are external to the model (even if they are part of the enterprises of teaching, schooling or teacher education). However good the quality of information on which assumptions are based, the situation in the future may change in quite unexpected ways. For example, a school authority's decision to change the school starting age will have a very dramatic impact on teacher demand, as will a decision to substantially improve or reduce staffing levels per student. The broad economic and political environment can substantially affect the resources going to schools, and thus PTRs, leading to sharp increases or declines in demand. The experience of the early 1990s shows that a severe, but politically achievable, reduction in staffing levels can be such that there are almost no new teaching jobs for several years in a row – supply can be several hundred per cent of demand, and continue well above demand as the surplus lingers. The wider economy also affects the availability of alternative jobs for those with teaching qualifications, or the imperative to teach for those with uncertain income sources (such as from farming).

Any labour market projections are inherently uncertain for the types of reasons outlined. Teacher supply and demand projections have advantages over those for some comparable occupations because there is relatively good data and reasonable assumptions possible for some major inputs of a projections model (especially student enrolments, PTRs, and graduate supply), and entry requirements (qualifications) are relatively clear-cut (at least in Australia).

On the other hand, one difficulty for school teacher projections, compared with those for some other professions (such as dentistry, medicine, architecture, pharmacy or physiotherapy), is the relatively high rate of separation from the occupation (see Thomas 1989, p. 9). Only a little over half of those of working age with teaching qualifications are teaching (this and following statistics are from 1996 ABS Census data on people with teaching qualifications under 65). The factors that attract those with teaching qualifications to teaching, and, especially, retain them in teaching, are many and complex. Age and sex are major determinants of the proportion that are currently out of the workforce altogether (about 20% of women and 10% of men with teaching qualifications are not in the workforce). Also very important are less predictable factors, such as the availability of alternative employment and the relative attractiveness of teaching (about 30% of men and women with teaching qualifications are in occupations other than teaching). Not only are future trends in separations difficult to project, but current separation rates are difficult to measure. This is because of the lack of data for the nongovernment sector and the limitations of the data for most government sector jurisdictions (for example, those on casual or short term appointments ceasing to be available are not accounted for, and extended leave creates measurement difficulties). What appear to be small changes or differences in separation rates can have a very large impact on demand.

Whatever the uncertainty of projections such as those in this report, such projections can be an important planning tool. To not use the best available projections when it is appropriate to do so is, at least implicitly, to assume a continuation of the current situation, or to make assumptions about the future from a set of information that has not been critically and transparently evaluated, or which is not sufficient to perform the task required (if, for example,it is not *comprehensive* – see below).

2.2 Scope of the projections

The projections in this report are at a general, state-wide level. They do not take account of:

- the quality of teachers (except that only those with formal primary or secondary teaching qualifications are included);
- subject and other specialisations;
- the availability of teachers for particularly hard-to-staff locations and schools.

These issues are important, but beyond the scope of these projections. These projections are not intended to encompass all strategic matters concerning the supply and demand of teachers, and these projections should not preclude other research and policy work directed towards, for example, subject specialist demand and supply, the staffing of hard to-staff schools, or ensuring that all teachers are of high professional quality.

However, these issues should be taken into account when interpreting these projections. The experience of 2000 indicates that, even where comfortable surpluses appear to be projected for the year (which is not over yet), many school authorities are having difficulties finding teachers for hard-to-staff schools, teachers in some key specialisations are in shortage and out-of-field teaching is increasing, and many principals report that they are having to employ on a casual or short term basis teachers who they consider less than fully competent for the job required. These are real shortages in terms of the effects on children's learning.

It is a matter for research and policy to determine if, and to what extent, there should be a 'general loading' in the projections to take account of these problems of mismatch and quality. A general loading would need to differ according to conditions at primary and secondary levels and in each State and Territory. Such conditions include geographic and demographic factors, patterns of SES

participation in particular sectors and schools, and whether effective strategies are in place to lessen the particular problems of mismatch and of quality.

The assumption in these projections that around 15% of graduates are not available or suitable for teaching positions can be interpreted as incorporating such a loading in small part, as well as accounting for that proportion of graduates do not ever seek teaching positions. This assumption about the proportion of graduates who do not enter teaching can be compared with the situation in the USA, where around 33-40% of those who graduate with teaching qualifications never teach, even though many locations and specialisations are experiencing chronic shortages (Curran et al 2000, p. 4 of 17; Darling-Hammond 1999, p. 6).

2.3 Comprehensive projections

It is essential that supply and demand projections are comprehensive if they are intended to provide useful information for policy and planning.

Very often government school authorities have excellent data on their own teaching workforce and current and future needs. However, there is usually little comparable data on the nongovernment sector, and often supply information (recent graduates and other sources of supply) is of poor quality. It is essential that *all* necessary inputs are made to the model, and, of course, that the highest quality data and best qualitative judgements are used to arrive at the values for the inputs. In his monograph, *Forecasting Teacher supply and Demand: Searching for Shangri-la - or chasing rainbows?*, Peter Galbraith of the University of Queensland argues that:

> It is not acceptable to omit a process of significance from consideration on the grounds that 'hard data' are absent. Put another way . . . processes must be included because of their significance in the real world, not on the basis of the availability of data, though such should be used when available. The problem is not so much one of unavailability of data as inability to use effectively such data as is known. A process deemed important must be included, for to 'omit' such a process on the grounds of insufficient data is not to omit it at all - but to include it with an asigned weight of zero. This is a far more serious structural error than getting the shape of an effect correct but its detail approximate. (Galbraith 1999, p. 4)

The projections in this report are comprehensive in that all relevant factors are fully taken into account on both the supply side and demand side, so that conclusions can be directly and explicitly drawn regarding future estimated shortfalls or surpluses. This includes:

- fully incorporating the nongovernment as well as government sectors in student enrolment projections, teacher numbers, and other factors;
- estimating actual teacher numbers, not full time equivalents;
- in estimating net separation rates, taking account of unavailability after a period of casual or limited term employment, and leave not accounted for in pupil-teacher ratios, as well as formal resignations and retirements; returnees and reentrants are also taken account of under net separations (see detail under methodology);
- accounting realistically for graduates from previous years who had been unable to gain teaching positions;
- ensuring that the supply and demand figures are provided on a comparable basis, and explicitly comparing them;
- providing findings of shortfalls or surpluses as numbers (of graduates) and percentages of other totals (total teacher numbers, total supply, total demand, and supply as a percentage of demand) that are relevant to those who may use the findings.

2.4 Data quality

Data and other information considered for the model has been critically evaluated. The sources are explained and detailed in section 6. Here some particular issues are taken up.

In some crucial areas alternatives to the obvious (or common) sources have been used. DETYA student enrolment projections are used because they appear to be of good quality, are prepared on a consistent basis nationally, are recent, and readily available. It is possible that some State or Territory-developed projections are as good, but there appeared to be only one case where it is clear that the use of other than DETYA projections is preferable, and that is for Western Australian primary schools because the DETYA projections do not take account of the planned change in school starting age and associated developments. So projections and other information from Western Australian school authorities are used for the primary school student enrolment projections in that State.

Australian Bureau of Statistics (ABS) data on teachers and students are used as the major sources for values of pupil-teacher ratios (PTRs), and the ratios of teacher numbers (persons) to full-time-equivalent (FTE) teachers. Some school authorities have good data on such matters, but it is not available directly from many nongovernment school authorities, and even those government school authorities that maintain good quality data may not do so on a comparable basis with other jurisdictions, may change the basis of data collection from time to time, and may not keep good statistics on, for example, teachers in casual or limited term employment.

ABS Census data on the age structure of teachers, and the age structure and labour force status of the population with teaching qualifications are used to estimate net separation rates. Many school authorities have more up-to-date data on the age structure of teachers within their jurisdictions, but there is generally no such data for nongovernment school teachers, nor for teachers in casual or limited term employment. And, certainly, school authorities do not have data on those with teaching qualifications who are not teaching (or are not registered). Some school authorities maintain good quality statistics on resignations and retirements, but often data is poor on leave movements, and there appears little on the rates at which teachers in casual or limited term employment move out of and into availability for teaching positions. Again, there is little on the nongovernment sector. It is possible that good quality projections of separation rates can be done with the data available for some government school systems, but they are of limited value if similar projections cannot be done for the nongovernment sectors within the State or Territory concerned. However, if that is possible, then the alternative values can be inserted in the model and alternative scenarios produced.

Any conclusions about future shortfalls or surpluses require projections of future supply as well as demand. In the projections in this report some elements commonly seen as part of supply are formally part of the derivation of 'demand'. They are explicitly included in the model and not ignored. Re-entrants and returnees from leave are incorporated in the net separation rate. Graduates of earlier years (who have not had substantial teaching positions in the State or Territory) are accounted for separately from graduates of the previous year, and taken into account before final 'demand' is calculated. This includes those unable to gain positions immediately after graduation because of a surplus, and those who have been involved in other activities before seeking a teaching position. The graduates of the previous year are thus the only factor on the 'supply' side – which is appropriate given the major purpose of these projections to inform decisions about university initial teacher education intakes.

The source for the graduate supply projections is a survey completed by all initial teacher education providers in Australia. This results in generally high quality, up-to-date projections, though university plans and the reality of student enrolments and completions can differ from that assumed when the survey form was completed. Some projections and reports on the future of

teacher supply and demand (for example, CESCEO 1998) have used DETYA statistics on 'initial teacher education' to develop (or imply) estimates of future supply. This is problematic for two reasons. First, data on recent enrolments (commencements, completions) cannot take account of future plans to change intakes or to change course length or structure in a way that will change the number of graduates in particular years in the future. Second, the data is generally of poor quality for such purposes. This is because of ambiguities or misunderstandings in course nomenclature and classifications. For example, in the DETYA collection many preservice Diploma in Education courses are classified as 'post-initial', and many inservice fourth year Bachelor of Education courses are classified as 'initial' teacher education. In CESCEO (1998) the example is stark where 1996 total secondary initial teacher education completions in South Australia are reported at just 100 (fewer in the three preceding years), when the actual number was over 250.

2.5 *A transparent model*

A useful projections model should be transparent, with as much explicit detail as possible on assumptions and the workings of the model. Ideally it should be simple for anyone to create alternative scenarios with different values for the various inputs – having the tables in which the model is structured available electronically can facilitate this.

For the projections in this report, the sources and major assumptions underlying each input, and the processes of the model, are explicitly set out in the methodological notes (section 6), with some additional notes under each table of projections. Each of the tables sets out the particular values for each input for each year.

Transparency facilitates constructive debate about the projections: if the final conclusions about surpluses or shortages are thought unrealistic, then the assumptions and processes that underlie them can be critically evaluated, and alternative scenarios developed that are themselves clear in their assumptions and findings.

2.6 *International recruitment from Australia: an additional matter*

The projections in this report do not take account of *recent* developments in the international recruitment of graduates and experienced teachers from Australia. The 'net separations' rates (see section 6, point 7) incorporates the general pattern of leaving Australia and, in many cases, returning to teach in Australia after several years such as was common in the 1990s. Currently the rate of recruitment from Australia appears to be burgeoning. While the matter is considered too uncertain and difficult to allocate to particular levels in particular States and Territories (as the projections in this report would require), it should be monitored, and, where appropriate, taken into account when interpreting the projections in this report. The following comments are intended to provide an indication of some of major issues - such as the possible magnitude of the impact, and the specialisations and jurisdictions that may be most affected.

An analysis of recruitment activities and information from international recruitment agencies indicates that something in the order of 2000 teachers have already been recruited for the 2000-01 northern hemisphere school year, taking up positions in August/September 2000 and some in January 2001. Recruitment is still actively going on for January 2001 and the rest of that year.

The projections in this report indicate an annual requirement for Australia through the projection period of around 10 000 new recruits, increasing to over 13 000. A net loss of 2000 graduates/teachers from Australia is equivalent to a reduction of about 20% in supply, equivalent to about one per cent of the total teaching workforce. In the context of the magnitude of shortfalls (and surpluses) projected in this report, recruitment to overseas positions may be a significant

factor, especially if concentrated in certain States and certain specialisations, and if many do not return to take up teaching positions within Australia within several years.

The major specialisations in demand overseas are reported to be early childhood teachers (pre-school and junior primary), and secondary mathematics and physical sciences. There is also great demand for special education teachers, English teachers, and primary generalists and specialists in music, art and physical education.

There is no doubt that teaching overseas is very valuable experience, and those who have taught overseas enrich the Australian teaching workforce. Historically many Australian graduates and young teachers have taught in locations such as inner London for one or two years on a temporary basis before returning to teach in Australia, and many experienced teachers have participated in formal and informal exchange programs.

However, it appears that the international teaching labour market is changing for Australian graduates and, especially, for well-qualified teachers with some experience. More generalised shortages in the United Kingdom are leading to much more aggressive recruiting and incentives to stay for longer periods. More importantly, major recruitment to potentially on-going positions in the United States and to 'International Schools' around the world is occurring. High quality teachers are being sought, and commensurate remuneration and support is being provided. Earlier this year the Japanese Government announced new approaches in English teaching in Japanese secondary schools, with an emphasis on native English speakers. Consequently there has been active recruitment in Australia to positions in Japan, and the Japanese Government has made visa and employment conditions for overseas teachers much easier. There has been similar active recruitment to Hong Kong, and to other Asian and Middle Eastern countries.

While demand for Australians to teach overseas is escalating, international recruiters have reported that supply is not as readily available as it was several years ago (especially in Victoria). Now that positions in Australia are readily available for recent graduates and for experienced teachers unsatisfied with their current positions, the international recruiters have to work much harder to meet their overseas clients' requirements. Since the very large surpluses of the mid to late 1990s, the international recruiters report their greatest success is in those jurisdictions with suitable leave provisions, rather than those with apparently larger surpluses of graduates. This is particularly so when they are seeking experienced teachers for potentially on-going positions. Many of those being recruited like to have the safety net of leave, even if they take up the overseas position in the expectation of not returning to their position in Australia. Thus some jurisdictions are experiencing (or will experience) a disproportionate share of loss to overseas positions, even if their local situation is not one of overall surplus (of course, the temporary loss may be an ultimate gain if the teachers return after an enriching experience).

Major overseas jurisdictions are generally expecting increased demand for new teachers and a tight labour market or shortages over the coming years (see box for USA estimates). In many countries that do (or may in the future) recruit from Australia, there are strong trends and pressures to improve the quality or teaching and to ensure that teachers are fully and appropriately qualified, even if this creates administrative difficulties (for a coverage of these matters in the USA see Darling-Hammond 2000, Ingersoll 1999, and NASBE 1998).

International mobility of professional labour is generally increasing. However, it should be remembered that in the mid 1970s more than 20% of new teachers came to Australia via planned overseas recruitment campaigns, and in Queensland it was up to around 40% (Australian Schools Commission 1981, p. 122). Active, supportive recruitment and attractive conditions can lead to high levels of movement between countries and between States and Territories. The apparent low levels of mobility in the 1980s and 1990s should not be expected to be the pattern of the future.

Projected supply and demand in the USA

It is commonly stated that the problem in the USA is not one of overall supply, but rather one of distribution (Darling-Hammond 2000, and NASBE 1998). This may currently be true. Distribution will continue to be a major factor in many schools having difficulties finding the teachers they want (as it is and will be in Australia). However, the total supply may become an issue in its own right if there are not sufficient increases in initial teacher education graduate numbers.

In his detailed analysis of the future demand for new teachers in the USA, William J Hussar concludes that:

> If the pupil-teacher ratio remains constant, at least 2 million newly hired public school teachers and about 500 000 newly hired private school teachers will be needed between 1998 and 2008 (encompassing 11 school years). (Hussar 1999, p.11)

The Hussar conclusion of at least 2 500 000 new teachers over 11 years entails an average annual requirement of more than 227 000 teachers.

A fair estimation would be that more than 70% of these teachers will need to be new to teaching – recent graduates or graduates of earlier years who have had no sustained teaching experience. This is because much of the new demand will be, first, to replace the increasing numbers of teachers who retire (those initially recruited to teach the rapidly expanding enrolments and reduced class sizes in the 1960s-1970s), estimated from Hussar's data on the age of teachers at more than 4% or 120 000 a year over the coming period (peaking around 2005 at above 5%), and, second, in response to increased enrolments in schools. When the teaching age structure was much younger (and thus a higher rate of temporary movements out of teaching and subsequent re-entrants) in the early 1990s, around 66% of newly hired teachers in the USA had no previous teaching experience (Curran et al 2000, p. 3 of 17). If it is assumed that over the coming period 70% of new hires will be recent graduates, annual graduate demand will average around 158 900.

In 1998 there were 200 545 new teacher education graduates in the USA (Feistritzer 1999, p. 2). It is frequently reported that only about 60% of initial teacher education graduates in the USA seek and obtain teaching positions (for example, Darling-Hammond 1999, p. 6; see also Feistritzer 1999, p. 4 for corroborating statistics that indicate an even lower rate). If it is assumed that 60% of graduates are 'available and suitable', then there will be annual graduate 'supply', at 1998 graduate number levels, of a little over 120 000. This number of graduates 'available and suitable' is about 75% of demand of 158 900. If the distribution and attractiveness of teaching problems apparent in the USA can be addressed, and 85% of graduates are available and suitable, then 'supply' would be 170 000, only 7% greater than demand. This is a very optimistic scenario.

The preferred estimate above is a shortfall totaling 389 000 over ten years (averaging 38 900 a year). It is not as great as the estimate reported in Cullen et al of a shortfall of approximately 870,000 over ten years (87 000 a year) (2000, p. 6 of 17).

These calculations are, of course, crude, but they do indicate that the supply and demand situation in the USA is likely to be tight, at best - if not one of substantial under-supply.

3. Interpretations, uses and responses to the projections

This section begins with a consideration of the general issue of the adversarial and collaborative uses to which the findings of any teacher supply and demand projections may be put. The magnitude of shortfalls and surpluses projected in this report are then discussed, followed by a consideration of the importance of supply being sufficient to ensure quality teaching, especially for the already disadvantaged students in hard-to-staff schools. This is followed by a detailed listing of possible strategies by various stakeholders to prevent or ameliorate damaging shortfalls or surpluses.

3.1 Adversarial and collaborative uses of projections

The projections in this report are primarily intended to inform the development of policy and the actions of stakeholders – whether universities, school authorities, the teaching profession or individuals planning their careers.

Use will sometimes be made of these (and other projections) in adversarial contexts, such as teacher wage cases. Some findings or conclusions may be treated without appropriate tentativeness and given a degree of publicity that might suit the interests of some stakeholders, but not the interests of others. The self interests that different stakeholders have in *particular* findings or conclusions needs to be recognised. The associated uses of projections are understandable and often quite legitimate. Such uses should not preclude the development and use of high quality projections. High quality projections would lead to better ultimate outcomes in adversarial contexts and in high profile publicity of particular findings. However, there are much more important uses of projections where the best projections, whatever their conclusions, are needed. The controversies related to the use of projections in adversarial situations should be put aside when other matters are being considered.

All of those concerned with schooling have a fundamental interest in there being sufficient qualified and highly competent teachers available to fill all vacancies, especially those in the hard-to-staff schools where students are already disadvantaged by many of the same reasons that make the schools hard-to-staff.

There are many aspects of teacher education, staffing and professional standards policy for which projections such as those in this report (including those done by some school authorities) might provide useful input. Many policy decisions have implications for the supply or demand of teachers, and good quality projections can assist decisions about timing, phasing, cost, associated policy decisions, and so on. Policy proposals can be tested according to their projected consequences by developing alternative projections incorporating the policy alternatives.

A possible example is a proposed change in school starting age that is projected to create a very large surplus followed by a period of tight balance/shortage (then substantial shortage after about six years when the smaller cohort moves on). School authorities and/or universities can test possible alternatives to minimise both the surplus and the subsequent shortfall, and implement strategies (some of which require a substantial time line) such as:

- universities shifting enrolments between primary and secondary initial teacher education, or between initial and postinitial, and lengthening courses if warranted so that the period of few graduates coincides with the period of low demand for new teachers;
- school authorities investigating the rate of permanent loss from teaching of graduates unable to obtain teaching positions within a year or so of graduation, and assessing the impact, costs and benefits of strategies such as:

- advanced offers to graduates of positions which are not to be taken up for one or two years, associated with support for activities such as a period teaching overseas; or
- temporary reductions in PTRs (perhaps associated with seconding some teachers to temporary special projects, incentives for current teachers to take paid or unpaid leave for activities such as further study or overseas teaching, or to take up entitlements such as long service leave during the period of projected oversupply).

A change in the structure of middle schooling (involving changes in location of students at a given year level between primary and secondary schools, or an independent change in the types of qualifications required of teachers) can have similar implications to a change in school starting age, and is likely to have opposite consequences for primary and secondary;

Many staffing matters, not themselves concerned with responding to current or anticipated situations of surplus or shortage, have implications for demand or supply, especially if widely taken up. These include, but are not limited to, proposals to:

- vary (average) PTRs at the primary and/or secondary level;
- change qualifications requirements for certain positions within or external to schools;
- change salaries, conditions or other matters that affect the relative attractiveness of teaching (for beginning and /or experienced teachers);
- change requirements and/or procedures for promotion that are less or more favourable to certain categories of teachers;
- modify the age structure of the teaching service through incentives or disincentives for early or later retirement;
- facilitate or restrict the availability of unpaid or paid leave;
- vary access to part-time employment;
- vary opportunities to take extended long service leave at a reduced salary;
- introduce salary averaging over several years with, for example, one year off for further study or other activity;
- vary the mix of beginning teachers from different backgrounds, of different ages, or sexes;
- vary recruitment location (between centre, region or school) and recruitment/deployment procedures (for example, early offers to completing students, publicly advertised and competitive merit-based recruitment, or passive recruitment).

If appropriate, alternative projections can be developed to assess the possible consequences of such proposals, and, if necessary, universities could be involved to best ensure any implementation does not result in damaging shortages or surpluses.

Similarly, universities can assess the implications of changes to course length or total intakes which they are considering for reasons unrelated to any projected shortages or surpluses. After assessing consequent supply against projected demand they might vary the timing or magnitude of proposals, or discuss ameliorating strategies with school authorities.

In addition to such policies that are in themselves not concerned with responding to surpluses and shortages, any projected shortages or surpluses need to be dealt with appropriately. The following sections outline the magnitude of surpluses and shortfalls projected in this report, discuss the importance of ensuring quality and the equitable distribution of teachers, and list some possible strategies for avoiding or ameliorating imbalances that are potentially damaging.

3.2 *The magnitude of projected shortfalls and surpluses*

The surpluses and shortfalls projected in this report are summarised in tables C to F.

The most substantial surpluses are supply at five to six times the number necessary to meet projected demand (both cases, secondary in Tasmania in 2000 and primary in Western Australia in 2002, are largely a consequence of a change in school starting age and thus a sharp decrease in enrolments). These very large surpluses of supply compared with demand do not appear large as a proportion of the total teaching workforce – around 3%.

Similarly, the largest projected shortfall of supply at half that necessary to meet projected demand (secondary in Tasmania in 2005, again related to the early 1990s change of school starting age as the small cohort moves out of secondary school) is less than 4% of the total teaching workforce. Other projected shortfalls, where supply is projected to be 60% to 70% of demand, are of the magnitude of around 2% to 3% of the teaching workforce.

Through the projection period, new recruits to teaching (excluding re-entrants and returnees from leave) are at most around 7% of the teaching workforce in a rapidly growing State such as Queensland, and nationally it is around 5%. This contrasts with the peak period of teacher recruitment in Australia, the mid 1970s, when, nationally, recruits new to teaching were about 13% of the total teacher workforce (based on government school data - Australian Schools Commission 1981, pp. 112 and 122). At that time, a shortfall of supply at 60% of demand would be equivalent to around 6% of the teaching workforce.

A shortfall of around 2% to 3% of the teaching workforce may not be difficult for a school authority to deal with administratively. If it is evenly spread, it can be coped with in ways that central administrations would barely notice: permanent vacancies would be filled, for some time at least, by a series of short term and casual appointments, and casual and short term vacancies would be covered at the school level by existing teachers (including principals and deputies who would not normally take classes), and at the post-compulsory level students may be sent home.

However, shortages are never evenly spread, with some schools chronically hard-to-staff, and other schools never experiencing shortages (even if they may not always be able to be as selective as they would like). In a situation of overall surplus those who want to teach but cannot obtain a position in their preferred location will be available for less desirable locations, and may be very successful and satisfied there. In a situation of general shortage hard-to-staff schools are disproportionately affected. Not only will they experience the actual vacancies and overload of current staff resulting from the across-the-board shortages, but they will be most affected by shortages in particular specialisations (such as mathematics and physical sciences) as those with the qualifications that are most in demand will readily find positions in desirable schools. Similarly, those teachers judged by school authorities to be most competent and having the highest professional standards will also readily find positions in desirable schools. The dynamics of differentiation and residualisation between public and private, rural and urban, low and high SES will be exacerbated if there is no intervention for the equitable distribution of available teachers.

System school authorities generally have in place a range of incentives, support mechanisms, and staffing procedures to assist staffing in hard-to-staff schools. But there is much more that can be

done – both for the equitable distribution of teachers and to avoid more general shortfalls. It is most important that the quality of teaching is not jeopardised, and that priority is given to those strategies that enhance the attractiveness and quality of teaching as a means to lessening demand and increasing supply. The reasons for this will be outlined before a range of strategies that stakeholders could implement are outlined

3.3 *Importance of supply to ensure quality teaching*

There are two reasons why teaching standards generally should not be lowered in response to shortages.

First, recent research is showing more clearly the very strong relationship between the quality of teaching (especially appropriate teacher qualifications and competence) and student learning. In the January 2000 edition of *Education Policy Analysis Archives*, Linda Darling-Hammond extensively reviews and reports research that sheds light on the inter-relationships between teacher quality and student achievement, generally at the level of state (in the USA) data and policy (Darling-Hammond 2000).

She reports on an investigation into the relationships between student achievement (as measured by the National Achievement in Educational Performance, NAEP, assessments of reading and mathematics) and state practices regarding matters such as teaching standards, school funding, curriculum reform, and testing. The findings of positive associations between teaching standards and student achievement are striking. For example, the two states which undertook the 'most substantial and systematic investments in teaching during the mid-1980s', North Carolina and Connecticut, had the most substantial improvements in student achievement from the early 1990s. These states put substantial resources into initial and continuing teacher education, and ensured enforcement of standards, sharply reducing the hiring of unlicensed and under-prepared teachers (p. 20 of 48). Overall:

> The most consistent highly significant predictor of student achievement in reading and mathematics in each year tested is the proportion of well-qualified teachers in a state: those with full certification and a major in the field they teach. . . The strongest, consistently negative predictors of student achievement, also significant in almost all cases, are the proportions of new teachers who are uncertified . . and the proportions of teachers who hold less than a minor in the field they teach. (p. 27 of 48)

Second, as already discussed in section 2.1, less qualified teachers usually have a much lower retention rate than fully qualified teachers, and the employment of a large number of less qualified, less competent teachers leads to pressure on qualified teachers, a general lowering of morale and the status of teaching, and thus reduces the attractiveness of teaching as a profession and the retention of experienced, competent teachers. Darling-Hammond (1999, chart 9) reports that the proportion of five-year trained, fully qualified teachers who remain after three years is more than four times that of teachers who just went through a 'short-term alternative certification program'). High turnover has substantial costs for school authorities in recruitment and induction, as well as the wasted cost of preparation (even if the preparation was on-the-cheap).

The arguments against lowering standards to recruit unqualified or inappropriately qualified teachers as a response to teacher shortages are compelling. The matter of adjusting PTRs is more complex. An increase in PTRs is commonly an 'automatic' response to shortages in that difficulties in finding casual relief, short term or on-going teachers, are usually covered, for a time at least, by existing teachers through increasing their workloads (taking extra classes, or increasing class sizes). As an unplanned, 'automatic' response, increasing PTRs is inequitable in that it tends to be concentrated in those hard-to-staff schools where the teachers are already overburdened and the students disadvantaged. A school authority may thus implement a small

increase in PTRs across the jurisdiction to ensure the impact of a shortage is evenly spread across schools. However, any increase in PTRs as a response to shortages, whether it is planned or 'automatic', is likely to be counter productive. Teachers' workloads will be increased, and they are likely to perceive that they (and their students) are being called on to carry the burden of a shortage - as an easy solution for school authorities unwilling to implement more expensive or challenging strategies. This situation would make teaching less attractive for current and potential teachers, leading to higher rates of separation and lower supply. Thus the shortfall may be exacerbated.

When there is a tight labour market it is important that standards are not lowered. A general improvement (decrease) in PTRs can reduce the quality of education in hard-to-staff schools if the experienced and competent teachers are attracted away from those schools to positions opening up in more desirable locations and schools. In his article, 'How class- size reduction harms kids in poor neighborhoods', Randy Ross comments that:

> Poor teaching nullifies the potential benefits of smaller classes. A recent study of the Dallas public schools suggests that spurts in academic performance take place only when students are exposed, grade-by-grade, to a continuous stream of good teaching. A single break in the quality causes the educational wheel to spin in place, digging a deeper and deeper hole for some children. (Ross 1999, p. 4 of 5)

and

> . . . the predictable redistribution of teaching quality fostered by the implementation of California's class-size reduction program looks and feels a lot like triage'. (p. 5 of 5)

The solution here is neither to increase PTRs, nor to not decrease them, but rather to manage the process with targeted funding, support and incentives to ensure that hard-to-staff schools are not further disadvantaged. Teaching standards must be rigorously maintained.

Employing 'any warm body', or increasing student-staff ratios may prevent or ameliorate projected shortfalls in the immediate term. But it will be at the expense of student learning and exacerbating the differential between the advantaged and the disadvantaged. Such strategies will most surely also be counter-productive, exacerbating or creating shortages after the initial effect.

3.4 Strategies to prevent or ameliorate imbalances

There are many ways in which stakeholders can play a part in preventing or ameliorating damaging shortages or surpluses while ensuring that the quality of teaching is not jeopardised. Some suggested strategies are listed below. Most first appeared in Preston 1997 (pp. 5-8); a similar list appeared in Darling-Hammond 1999 (pp. 20-23).

Many strategies require high levels of collaboration between stakeholders. However, the initiative, lead role, and responsibility for implementation must be taken by particular stakeholders. Some initiatives have a lead time of more than half a decade - such as careers teachers effectively encouraging their students to take up teaching as a career; or increases in intakes that involve restructuring within a university. Other initiatives have a short lead time - such as recruitment campaigns directed at people already with teaching qualifications.

Some specific strategies include:

By the Commonwealth Government, DETYA and/or university administrations:

- ensure that any policy constraining or directing initial teacher education enrolments is evidence-based, and that there is timely, high quality, policy-ready research to inform such policy;

- provide financial and administrative support for necessary increases in initial teacher education intakes - this might involve consideration of the existing initial teacher education infrastructure or capacity in a State, region or in a specialisation;
- ensure that there is the financial and administrative support necessary for high quality initial teacher education;
- ensure there is stable and adequate support for teacher education that is preparing students for hard to staff schools and shortage specialisations – for example, financial and other support for faculties of education providing practical experience in remote locations, and adequate funding for shortage specialisation that enrol small numbers or which are expensive (these strategies could be part of a broader policy such as in rural education, Indigenous education, or improving Australia's scientific capacity – see, for example, recommendations 5.9b, 5.10, 5.11, 5.12a, 5.12b, and 5.12c of the Human Rights and Equal Opportunity Commission's National Inquiry into Rural and Remote Education: HREOC 2000, pp. 44-46);
- support targeted recruitment of students from hard-to-staff locations and those qualified to prepare for shortage specialisations;
- provide financial and other support for teacher education students, especially those studying in expected shortage specialisations such as mathematics and science, and those from difficult to staff locations - students from rural and remote locations who need to live away from home may particularly benefit from up-front financial assistance;
- provide support for research and development on specific strategies to improve supply and reduce demand (by, for example, reducing resignations of beginning teachers in difficult locations) - this is particularly directed to DETYA sections and school authorities that commission research in such areas; and to ARC, university research committees and other agencies that set research priorities;
- publicly promote teaching as a career and the status of teachers - this is particularly directed at the Commonwealth Government and at careers advisers in universities.

By faculties of education:

- develop proposals for increases (or other changes) in graduate numbers in consultation with other universities and stakeholders;
- further develop and support courses which prepare students for hard to staff locations and expected shortage specialisations;
- actively support the development of mechanisms to ensure high standards of teacher education graduates and recruits to teaching in shortage situations;
- ensure consultative mechanisms are in place to deal with RPL, unconventional paths into teaching, provisional licenses to teach, compressed courses, and other mechanisms for short term responses to teacher shortages;
- carry out research and development on matters such as the most effective ways of supporting beginning teachers (especially those in difficult positions) - in collaboration with school authorities and the teaching profession.

By school authorities:

- provide effective support for practicums and other aspects of teacher education that prepare student teachers for hard-to-staff and challenging positions and for shortage specialisations;

- provide general support for the school-based elements of initial teacher education through, for example, additional staffing (time allowances) for schools with student teachers;
- collaboratively develop strategies based on the 'challenge approach' for hard-to-staff positions – in particular, provide all necessary professional support, and ensure competence in challenging or unusual situations;
- provide personal support and appropriate incentives for teachers in hard-to-staff rural and remote locations (for example, ensure adequate housing, community facilities, communication with family and friends, employment and educational opportunities for family members, and, if these cannot be ensured, provide adequate compensation);
- provide quality induction, support, and reduced loads for beginning teachers, and ensure that beginning teachers are not placed in particularly difficult positions;
- increase the attractiveness of teaching and the satisfaction teachers gain from their work (for casual and limited term teachers as well as those employed in an on-going capacity);
- publicly support teachers and their work, and otherwise work to enhance the public standing of teachers and teaching;
- develop effective campaigns to recruit graduates and potential re-entrants into teaching;
- in collaboration with the teaching profession and universities, provide effective refresher, updating and induction programs for re-entrants and people with teaching qualifications obtained some years earlier who have not had sustained teaching experience;
- ensure that industrial and professional requirements and entitlements facilitate mobility between school jurisdictions (interstate and intrastate) without jeopardising professional standards;
- ensure adequate professional and industrial recognition is given to teachers with overseas teaching experience or other relevant experience;
- work collaboratively with other authorities and schools to ensure as far as possible the optimal and equitable deployment of available teachers among all schools in a State or Territory - this is directed to nongovernment schools and school authorities, and individual schools in systems with devolved staffing, as well as more centralised government systems; and may involve more streamlined recruitment processes.

By the teaching profession:

- encourage and collaborate with school authorities in the strategies listed above;
- encourage students to consider teaching as a career;
- give professional priority to mentoring and supporting student teachers, beginning teachers and experienced teachers in a new situations, especially those in or preparing for hard-to-staff and challenging positions, and those with or seeking shortage qualifications;
- consider the implications for teacher supply or demand when developing priorities and strategies for industrial and professional initiatives;
- develop strategies for ensuring teacher quality in circumstances of shortages - for example, by negotiating commitments from school authorities that unqualified teachers will not be employed, and that any provisional license to teach is of a specified limited nature.

By parent organisations and parents:

- encourage careers in teaching;

- welcome and support student teachers and new teachers in the school community;
- pressure school authorities (and governments and other agencies) to implement appropriate strategies to avoid shortages, including those strategies which require a substantial financial commitment.

By organisations with constituencies dependent on hard to staff schools:

- give appropriate priority to preventing and ameliorating expected shortages by lobbying and working collaboratively with other stakeholders - this is particularly directed to farmer organisations, rural community organisations, and urban community organisations in hard to staff areas;
- support local schools and the teachers who work there, and generally enhancing the attractiveness of teaching careers in local schools;
- welcome new teachers to the community and assist their settling in;
- support and welcome student teachers, and collaborate with universities and school authorities to establish effective practicums in rural, remote, and other hard to staff locations;
- encourage teaching as a career for local people.

By organisations with constituencies dependent on likely or possible shortage specialisations:

- give appropriate priority to preventing and ameliorating expected shortages by lobbying and working collaboratively with other stakeholders - this is particularly directed to associations for professions in science, mathematics, information technology, and languages other than English, as well as organisations representing industries and areas of society which depend on such professions and their knowledge, expertise and research.

By Indigenous communities and education associations:

- give appropriate priority to preventing and ameliorating any expected shortages that would affect Indigenous communities by lobbying and working collaboratively with other stakeholders;
- support practicums in Indigenous communities and in schools with a high proportion of Indigenous students, and in other ways help student teachers become effective teachers of Indigenous students and to find teaching in schools with a high proportion of Indigenous students a rewarding experience;
- encourage and support community members to take up teaching as a career.

4. Historical background - school students, teachers and teacher education

For the first half of the twentieth century there was little growth in school enrolments, increasing by less than 50% between 1905 and 1945. However, over the next thirty years to 1975 enrolments increased by more than 150%. Growth in student enrolments then slowed, with the expected growth between 1975 and 2005 only about 15%. However, the rate of increase has recently increased - the annual increase from 1975 to 1995 was about 0.3%, between 1995 and 2005 it is expected to more than double to an annual increase of 0.7%. This pattern of enrolment change is clear from the following graph of enrolments over one hundred years from 1905.

FIGURE A: School students, Australia, 1905 to 2005

Source: 1905 to 1975 from Schools Commission (1981) *Report for the Triennium 1982 - 84*. Canberra: Schools Commission, p. 27. 1985 & 1995 from ABS *Schools Australia*, Cat No 4221.0. 2005 projection from DETYA Schools Division, May 2000.

Teacher numbers followed a similar pattern until the 1960s, when improvements in staffing ratios added to the effects of enrolment growth. From the mid 1960s to the mid 1970s the number of students per teacher (pupil-teacher ratio, or PTR) fell from 26 to 19, and teacher numbers increased from about 93 600 to 152 500. Staffing levels improved a little over the next decade, and have been fairly stable since then (but with some sharp fluctuations in some jurisdictions in the 1990s, which are discussed in the following section). Even with no change in PTRs, the increase in the number of FTE teachers from 1995 to 2005 is expected to be double that between 1985 and 1995. These developments are set out in the following table.

TABLE A: Students and teachers in Australian schools, 1955 to 2005

	Students	Teachers (FTE)	PTRs
1955	1 695 100	62 000	27.3
1965	2 435 100	93 600	26.0
1975	2 91[illegible] 300	152 500	19.1
1985	3 006 200	195 500	15.4
1995	3 109 300	202 000	15.4
2005 (est)	3 317 000	216 000	15.4

Note: The sources for the student statistics are as for the preceding graph. Teacher statistics are derived from a range of sources which are not always comparable (though original source is usually ABS), and as some adjustments have had to be made to allow comparability, the statistics should be taken as indicative only

The very large increase in teacher numbers from the late 1960s to the early 1980s required a parallel increase in initial teacher education, especially in the early 1970s, as shown in the following table.

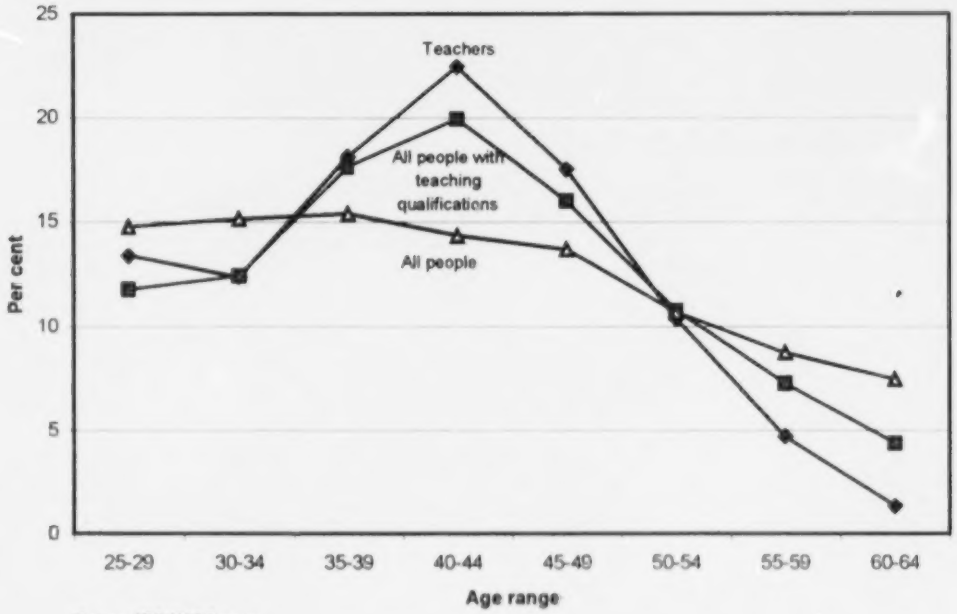
TABLE B: Initial teacher education commencements, 1970 to 2000

1970	16 000
1975	24 000
1980	16 000
1985	12 000
1990	14 000
1995	11 000
2000	13 000

Note: These statistics are derived from a range of sources which are not always comparable, and as some adjustments have had to be made to allow comparability, the statistics should be taken as indicative only

The employment of many new teachers from the late 1960s to the early 1980s has been reflected ever since in the age structure of the teaching workforce in Australia, and in the age structure of all people with teaching qualifications, whether currently teaching or not. The following graph of 1996 ABS census data shows the peak of those aged 40-44 in 1996, most of whom would have graduated (and began teaching) around the mid 1970s (note that up to 10% in this age range could have graduated overseas and been brought to Australia in the planned overseas recruitment campaigns that resulted in more than 5,000 recruits between 1974 and 1977). The dip of the 30-34 age group of those with teaching qualifications reflects the cutbacks in teacher education around the early 1980s. The sharp decline in teacher education through the 1990s (commencing student numbers fell by a third between 1991 and 1998) does not show up in this 1996 census data, but is discussed in the following section.

FIGURE B: Teachers, all people with teaching qualifications, and all people - Australia, 1996, aged 25 to 64, percentage in each five year age range



Source ABS 1996 Census

This historical, national picture indicates that over the coming period there will be increased demand for teachers for two underlying reasons: the need to replace those who entered teaching around the 1970s, and the increase in total teacher numbers required to teach the expected increase in student enrolments (if there is to be no reduction in staffing levels). There factors are in addition to the projected increase in the ratio of teacher numbers (persons) to FTE teachers, and any increase in resignation or the taking of extended leave (generally projected to increase because a higher proportion of teachers are projected to be in the high separation younger age groups), and reduction in PTRs (improvements in staffing levels).

5. Developments through the 1990s in the States and Territories, and projections for 2000 to 2005

Each State and Territory differed in developments in initial teacher education and teacher numbers through the 1990s. These developments help explain the current situation and the broad findings in the projections in this report.

In this section reference is made to Tables 1-17, the tables of projections for each State and Territory and Australia, and Tables 21-27, which provide detailed data, usually for each State and Territory, on commencing education students in 1991 and 1998; pupil-teacher ratios and teacher numbers through the 1990s; the actual and projected age structure of the teaching workforce, 1996, 2001 and 2006; and the proportion of those with teaching qualifications who were teaching, by age group, in 1996.

5.1 National overview

Between 1990 and 1999 the number of teachers in Australian schools increased by 26 416, or 11%. The increase between 1990 and 1995 was small – only 7 906 or 3.6% (an annual increase of 1581 or 0.7%), and in the government sector there was in fact a decline in teacher numbers of 168. Between 1995 and 1999 there has been a much more substantial increase of 18 510 or 7.7% (an annual increase of 4628 or 1.9%). The recession of the early 1990s and its effect on the financial position of State and Territory governments was a major factor in the differences between the two periods in the growth in teacher numbers. Nationally, there was deterioration in staffing levels (that is, and increase in PTRs) between 1990 and 1995, and an improvement between 1995 and 1999.

The recession substantially reduced teacher demand in two ways. First, the increases in PTRs were so substantial in some cases that no (or very few) new recruits were employed as natural attrition was used to reduce teacher numbers, and existing teachers were transferred to any vacancies that did arise. Second, the generally weak economy meant that many teachers who may have otherwise resigned from teaching stayed in teaching positions either because they could not obtain alternative employment, or because their household required their income from teaching (especially important in rural areas during the drought and period of very low commodity prices during the early 1990s. In some States very substantial surpluses of graduates and other seeking teaching positions developed, and remained for some years.

The infrastructure for and provision of initial teacher education was profoundly changed by the reorganisation of higher education in Australia following the July 1988 *Higher Education: A Policy Statement* from the then Minister for Employment, Education and Training, John Dawkins. The reorganisation, creating the 'unified national system', ended the binary divide between colleges of advanced education and universities, and significantly reduced the number of institutions (from more than 70 to fewer than 40). How teacher education fared in the reorganisation was much more a matter of the location and size of particular institutions and the strategic plans of the universities that dominated the major amalgamations, than any objective assessment of the future needs of schools. Overall, the number of students commencing courses in education fell by a third between 1991 and 1998 (see Table 21), largely as a consequence of what had been large teacher education institutions amalgamating with universities (or former central institutes of technology) that were not interested in having a large education faculty. The pattern differed from State to State, and the detail is discussed in the following sections.

Nationally, the supply and demand situation through the 1990s began with sharply reduced demand, coupled with supply continuing at the rate that was generally necessary to respond to the much higher level of demand in the late 1980s. Thus some large surpluses of supply over demand arose, and 'pools' of 'unemployed' teachers developed (involving both graduates and experienced teachers seeking to re-enter). In the second half of the decade demand increased, the supply of graduates fell substantially, but overall shortfalls were avoided because of the lingering 'pools'.

Australia: projections

Primary student enrolments are projected by DETYA to increase by 1.4% between 2000 and 2005 (25 925).

Primary teacher numbers are projected by this report's model to increase by 3.7% (4633) – the model assumes no change in PTR (FTE teachers), but does assume an increase in the ratio of teacher numbers (persons) to FTE.

Demand for graduates is projected to increase by 30.7%, largely because of increased net separation rates because of increased retirements (of the very large number of teachers initially employed in the 1970s), but also because of the higher proportion of beginning teachers, who have a much higher rate of net separation than more experienced teachers.

Supply is projected to increase by 27.9%, a little less than the increase in demand.

Through most of the period supply is about 90% of demand (under 1% of the national primary teaching workforce), except for 2002 and 2003, when the sharply reduced demand in Western Australia because of the change in school starting age takes effect, and national supply is greater than demand.

The underlying trend is of supply increasingly not meeting demand to a relatively minor extent. However, the pattern differs significantly around the country.

Secondary student enrolments are projected by DETYA to increase by 4.1% between 2000 and 2005 (54 304).

Secondary teacher numbers are projected by this report's model to increase by 6.2% (7240) – the model assumes no change in PTR (FTE teachers), but does assume an increase in the ratio of teacher numbers (persons) to FTE.

Demand for graduates is projected to increase by 84.7%, largely because of increased net separation rates because of increased retirements (of the very large number of teachers initially employed in the 1970s), but also because of the higher proportion of beginning teachers, who have a much higher rate of net separation than more experienced teachers.

Supply and demand are similar at the beginning of the period, but by 2005 supply is only 70% of demand (more than 2% of the secondary teacher workforce). The underlying trend is of supply increasingly not meeting supply to a quite substantial extent. The projected shortfalls are much greater in some States and Territories than others.

5.2 New South Wales

New South Wales maintained much more stability on both the demand and supply sides through the 1990s than most other States and Territories.

Teacher numbers increased at a rate well above the rest of the country in the first half of the decade, and a little below in the second half. PTRs improved (decreased) throughout the period, but at a greater rate in the first half.

At the beginning of the 1990s graduate numbers were much lower relative to total teacher numbers than in Victoria, for example. During the 1990s New South Wales institutions did not experience the very large reduction in teacher education experienced elsewhere – commencing student numbers in education reduced by 22% in New South Wales between 1991 and 1998, compared with a national reduction of 33%, and a reduction in Victoria of 50%. This left New South Wales in the late 1990s with what appears to be a more robust teacher education infrastructure, though some institutions (like many around the country) are now having difficulties.

New South Wales: projections

Primary student enrolments are projected by DETYA to increase by just 0.8% between 2000 and 2005 (4881).

Teacher numbers are projected by this report's model to increase by 2.8% (1124).

Demand for graduates is projected to increase by 14.2%.

Supply of graduates is projected to increase by 24%.

Thus, supply is projected to more than keep up with demand, but not excessively so.

Secondary student enrolments are projected by DETYA to increase by 3.6% between 2000 and 2005 (16 924).

Teacher numbers are projected by this report's model to increase by 5.8% (2 339).

Demand for graduates is projected to increase by 82.5%, and supply by 13.8%.

Supply is initially projected to be 20-30% greater than demand, but drops back to being only 80% of demand (the shortfall projected to be 1.3% of the teaching workforce).

Thus the situation is projected to change sharply from one of over-supply in 2000 and 2001 to undersupply.

5.3 Victoria

Victoria experienced a roller-coaster of supply and demand through the 1990s. The decade began with Victoria having the best staffing levels (lowest PTRs) in the country after the Northern Territory, and as many teacher education graduates as New South Wales. The recession struck Victoria particularly hard, with deterioration in government sector staffing levels occurring from the beginning of the decade. Between 1990 and 1995 teacher numbers in Victoria fell by 4030 (the government sector teacher numbers in fact fell by 5103, while the nongovernment sector increased by 1073). This was largely because of the substantial increase in PTRs from 13.9 to 15.1, but there was also a loss of population, including school-age children, out of the State (over the period 1991-1996 Victoria had an average annual net loss of 21 567, but through 1996 to 1999 this turned around to a small annual net gain of 164 (ABS *1998-99 Migration*, Cat. No. 3412.0, p.63).

The combination of teacher education graduate numbers easily sufficient to meet underlying needs, the staffing cuts, population loss, and low resignation rates because of a lack of alternative employment, led to very large surpluses of supply over demand. In fact the reduction in teacher numbers were such that there were no positions for almost all the graduates over several years, and graduates of subsequent years had to compete with those who had already be trying to obtain suitable teaching positions for some years.

It was in this context that the rationalisation of teacher education in universities occurred. Victorian teacher education had been dominated by two institutions, both in the Melbourne metropolitan area – Melbourne College of Advanced Education (formerly Melbourne Teachers College, which had been on its Carlton site for a hundred years) and Victoria College. They amalgamated with universities with relatively small teacher education programs – the University of Melbourne and Deakin University respectively. In 1991 these institutions enrolled almost two thirds of the education commencing students in Victoria. In contrast, the two New South Wales institutions with the largest commencing enrolments (University of Sydney that had Amalgamated with Sydney CAE, and the University of New England that had amalgamated with Armidale and Northern Rivers CAEs) enrolled just over a quarter of commencing education students in that State. It appears that neither Melbourne nor Deakin were interested in a large education faculty, but still wanted to go ahead with the amalgamations. From 1991 to 1998 commencing education enrolments in the two institutions fell by 66% and 70% respectively – in total from 5197 to 1698. Overall, commencing enrolments in Victoria fell by 50%. At the time many considered such a reduction reasonable given the then oversupply of graduates. Yet there was little recognition of the temporary nature of that oversupply, and in decision-making in the universities, scant regard was given to what might be the future needs of schools and the teaching profession, though the current circumstances provided a convenient rationalisation.

Victoria has been experiencing strong economic improvement and the population loss has been turned around. There is commitment to improving staffing levels in government schools, and the large nongovernment sector can be expected to continue to improve staffing levels with increased per capita Commonwealth funding.

The projections in this report indicate that there should not be any serious staffing difficulties in 2000 at the secondary level (primarily because of the relatively small secondary student enrolment growth DETYA projected between 1999 and 2000), but that there will be staffing difficulties at the primary level, especially as the promised staffing improvements are implemented. Later in the period shortfalls of one to two per cent of the teaching workforce are projected for both the primary and secondary levels.

Victoria: projections

Primary student enrolments are projected by DETYA to decline by 1.0% between 2000 and 2005 (4263).

Teacher numbers are projected by this report's model to increase by 1.4% (389).

Demand for graduates is projected to increase by 22.2%.

Supply of graduates is projected to increase by 12.5%.

Thus, supply is projected to progressively fall behind demand (after being close to balance in 2001), in 2005 supply being just over two thirds of demand, the projected shortfall being almost 2% of the teaching workforce.

An alternative scenario with 2000 staffing improvements (433 additional primary teachers) is provided (Table 3a). This scenario involves a substantial shortfall in 2000 (supply being just over half that necessary to meet demand, the shortfall being over 3% of the teaching workforce), but subsequent years are not substantially affected if the school authorities are able to make the special recruitment efforts necessary to meet the short term increase in demand.

Secondary student enrolments are projected by DETYA to increase by 4.0% between 2000 and 2005 (13 950).

Teacher numbers are projected by this report's model to increase by 6.4% (1997).

Demand for graduates is projected to increase by 90.1%, and supply by only 1.9%.

In 2000 supply is projected to be sufficient to meet supply, but this is projected to become a shortfall by 2001, and by 2005 supply is projected to be just 60% of demand, the shortfall being 3% of the teaching workforce.

5.4 *Queensland*

Queensland experienced a very substantial increase in teacher numbers during the 1990s – an increase of 23% (9911 teachers). PTRs improved in both the early and late 1990s, ending the decade at 14.8 students per teacher – a little below the national ratio of 15.0 students per teacher. Teacher education commencing enrolments were reduced by 20% in Queensland over the period 1991 to 1998. The implementation of the Queensland Board of Teacher Registration's requirement for at least two years of professional preparation as part of initial teacher education resulted in the lengthening of a substantial proportion of secondary teacher education programs, and a reduced number of graduates available for teaching positions in 2000. Active recruitment appears to have successfully overcome and serious staffing difficulties to date.

Queensland: projections

Primary student enrolments are projected by DETYA to increase by 7.3% between 2000 and 2005 (26 799).

Teacher numbers are projected by this report's model to increase by 9.4% (2319).

Demand for graduates is projected to increase by 91%.

Supply of graduates is projected to increase by 81%.

Supply is projected to be insufficient to meet demand throughout the period, the shortfall being the greatest in 2001 (supply being just under two thirds of demand, the projected shortfall being almost 3% of the teaching workforce), through the rest of the period the shortfall is less than 2% of the workforce.

Secondary student enrolments are projected by DETYA to increase by 7.8% between 2000 and 2005 (18 219).

Teacher numbers are projected by this report's model to increase by 9.9% (1933).

Demand and supply for graduates were both projected to be low in 2000 (though with supply falling well short of demand because of the impact of course lengthening). Between 2001 and 2005 demand for graduates is projected to increase by 80%, but supply by only 15%.

In 2001 supply is projected to be sufficient to meet demand, but this is projected to become an increasing shortfall through the period, and by 2005 supply is projected to be just two thirds of demand, the shortfall being just under 3% of the teaching workforce in 2005.

5.5 *Western Australia*

Western Australia experienced substantial growth of 17% in teacher numbers through the 1990s – a little less than Queensland. PTRs progressively decreased through the period, but not to the extent of Queensland or New South Wales. In 1999 PTRs in Western Australia were just above the national ratio. Education commencing student numbers fell by more than a third from 1991 to 1998 largely because of reductions of 44% at Edith Cowan University.

Western Australia: projections

Primary student enrolments are projected (by EDWA, with some adjustments for national consistency in year levels included) to decline by 2.3% between 2000 and 2005 (4879). This decline is a result of a half size cohort entering primary school (the 'pre-primary' year before year one) in 2002 as a result of a change in school starting age. (The DETYA projections do not take account of this change in starting age, and project primary enrolments to increase by 1.8% over the period).

The impact of the change in starting age is ameliorated a little by changes in the provision of 'kindergarten' and 'pre-primary' education (kindergarten is the year before 'pre-primary'). Even so, such a change has a very substantial effect on demand for new teachers.

If there is no change in PTR, the number of primary teachers in Western Australia is projected to fall by 469 between 2001 and 2002, and demand for graduates drop from 781 to just 86.

Supply is expected to be reduced between 2001 and 2002 as early childhood graduates take up the extra kindergarten positions (not included in these projections) resulting from provision of increased kindergarten hours. However, this is not sufficient to eliminate the very large graduate surplus in 2002 of supply being 551% of demand. A large proportion of those graduates unable to obtain teaching positions in 2002 are expected to remain available for 2003, and consequently that year is also projected to have a large surplus, but not of the magnitude of 2002. Even though there will still be some of this 'pool' available in 2004, it is projected that in that year Western Australia at the primary level will not have sufficient graduates to meet demand, and that in 2005 supply will be only 80% of demand.

Strategies to keep as many as possible of the surplus graduates of 2002 and 2003 available for teaching positions may prevent or at least ameliorate the projected shortfalls from 2004. One strategy may be a temporary decrease in PTRs, with employment of graduates who would not other wise be employed, and provision of study leave or special project duties for many experienced teachers. Another strategy may be formal offers of positions for 2004 and subsequent years in 2002 and 2003, with encouragement of further study such as an honours year, or teaching experience overseas (on a strictly limited term basis). However, even if all graduates unable to obtain teaching positions in 2002 or 2003 remained available, the underlying shortfall would become apparent in 2006.

Secondary student enrolments are projected by DETYA to increase by 5.6% between 2000 and 2005 (7012). Teacher numbers are projected by this report's model to increase by 7.9% (875).

Demand for graduates is projected to increase by 39.0%, and supply by only 10.2%.

In 2000 supply is projected to be sufficient to meet demand, but this is projected to become an increasing shortfall, with supply being only 72% of demand in 2003 (just over 2% of the teaching workforce).

5.6 South Australia

South Australia, like Victoria and to a lesser extent Tasmania, experienced especially difficult economic conditions in the early 1990s, resulting in substantial reductions in teacher numbers and surpluses of supply over demand. There was growth in teacher numbers in the late 1990s, but there was still a decline between 1990 to 1999 of 111.

Education commencing student numbers fell by more than a third from 1991 to 1998, largely because of reduction of 41%at the University of South Australia.

South Australia: projections

Primary student enrolments are projected by DETYA to decline by 2.3% between 2000 and 2005 (3742).

Teacher numbers are projected by this report's model to decline by 0.8% (86).

Demand for graduates is projected to increase by 38%.

Supply of graduates is projected to increase to 2003, then fall back.

Supply is projected to be close to demand until 2004, and in 2005 supply is projected to be only 75% of demand.

As almost 40% of the South Australian teaching workforce are expected to over 50 in 2006, the net separation rate can be expected to continue to increase until around 2010 before dropping back, and thus demand is likely to continue to increase.

Secondary student enrolments are projected by DETYA to decrease by 1.3% between 2000 and 2005 (1139).

Teacher numbers are projected by this report's model to increase by 0.5% (38).

Demand for graduates is projected to increase by 72%.

Supply is projected to decline by 22% (but supply drops sharply from 2000 to 2001, and is projected to increase over the period from 2001).

In 2000 supply is projected to be sufficient to meet supply, with a surplus carrying over to 2001 that is projected to ameliorate (but not eliminate) the shortfall projected for that year. The shortfalls are then projected to increase substantially, and in 2005 supply is projected to be just 56% of demand (the shortfall almost 3% of the teaching workforce). Like primary teachers, secondary teachers in South Australia are projected to have an increasingly high rate of net separations because of retirements through the coming decade, and demand can be expected to continue to increase for some years beyond 2000.

5.7 Tasmania

Tasmania experienced some sharp fluctuations in demand through the 1990s. The most significant were a consequence of the change in school starting age, with a relatively small cohort entering primary school in 1992, and entering secondary school in 1999. Such one-off small cohorts cause a sharp drop in teacher numbers (if PTRs remain constant) and a consequent drop in demand, and creation of large surpluses of graduates unable to obtain teaching positions. Even so, the 1996 ABS census indicated that the proportion of Tasmanian people under thirty with

primary teaching qualifications who were teaching was the highest in Australia (87% compared with a national proportion of 63%). Tasmania also experienced an increase in PTRs in the early 1990s, which added to the reduction in teacher numbers. In the second half of the 1990s, PTRs fell, and overall teacher numbers increased by 1.6% over the decade.

The University of Tasmania was able to adjust teacher education enrolments between primary and secondary to ameliorate the effects of reduced demand for the one, then the other. Overall, commencing enrolments in education in Tasmania fell by 23% between 1991 and 1998.

Tasmania: projections

Primary student enrolments are projected by DETYA to decline by 4.1% between 2000 and 2005 (1934).

Teacher numbers are projected by this report's model to decline by 2.8% (98).

Demand for graduates is projected to decline by 12% over the period, but significant fluctuations are projected as demand drops by 41% from 2000 to 2003 before increasing.

Supply of graduates is projected to increase in 2001, drop back, and be relatively high again in 2003. Surpluses are projected for 2001 to 2004 (especially in 2003), but a shortfall is projected for 2005, even though a substantial proportion of the graduates who are not able to obtain positions in the years of surplus are assumed to remain available in subsequent years.

Secondary student enrolments are projected by DETYA to decrease by 2.1% between 2000 and 2005 (751), but there are significant fluctuations. A large drop of 5.8% in enrolments between 1998 and 2000 occurred as the smaller cohorts (resulting from the change in school starting age) moved from primary to secondary school. From 2003 the smaller cohorts enter the senior years and begin to leave school, those who complete year 12 leaving at the end of 2004 and 2005. Secondary enrolments are then projected to increase until the full size cohorts are established, with DETYA projecting an increase between 2004 and 2006 of 2%, followed by a return to the underlying rate of enrolment decline of about 1% a year.

Teacher numbers are projected by this report's model to decrease by 0.6% (20), with large declines early in the period, and an increase from 2004 to 2005.

Demand for graduates is projected to increase from only 20 in 2002 to 238 in 2005.

Because of the low projected demand in 2000 (largely because of the large drop in enrolments between 1998 and 2000), there is a very large surplus projected for the year, and a high proportion of those individuals are assumed to remain available for subsequent years. Thus surpluses are also projected for 2001 and 2002, with 2003 close to balance, and a very substantial shortfall emerging at the end of the period - in 2005 supply is projected to be only half demand, which results in a shortfall almost 4% of the secondary teaching workforce. A substantial shortfall is also likely to be projected for 2006, though demand is likely to drop back subsequently.

5.8 Northern Territory

During the 1990s the Northern Territory experienced a substantial increase of 17% in teacher numbers. In the first half there was a small increase in PTRs, then a substantial decrease from 13.7 to 13.1 between 1995 and 1999. Teacher education commencing enrolments at both the Northern Territory University and Batchelor Institute of Indigenous Tertiary Education fell substantially between 1991 and 1998 – in total by 53%.

Northern Territory: projections

The Northern Territory differs from the States in that its teacher education institutions meet only a small proportion of its requirements for new teachers. Therefore the projections in this report for the Northern Territory are differently structured, and the 'bottom line' is the number of teachers that need to be recruited from interstate each year.

Primary enrolments are projected by DETYA to increase by 1.6% (434) between 2000 and 2005.

Teacher numbers are projected by this report's model to increase by 3.2% (68).

The number of recruits required is projected to initially increase a little, then decline slightly.

The number of graduates is projected to increase substantially through the period (by 147%), and the proportion of recruits supplied by Northern Territory institutions is projected to increase from 24% in 2000 to 67% in 2005. Therefore the number of recruits from interstate is projected to decline substantially – from 160 in 2000 to 60 in 2005. The projected large surpluses in Western Australia in 2002 and 2003 may ease any staffing difficulties in the Northern Territory for those years, but these surpluses are projected to disappear by 2004, and from that year a national shortfall of primary graduates is expected.

Secondary student enrolments are projected by DETYA to increase by 6.6% between 2000 and 2005 (773).

Teacher numbers are projected by this report to increase by 8.5% (96).

The number of graduates is expected to increase by 45% (10), and graduates are only expected to supply between 15% and 18% of recruits required through out the period. Therefore the number of recruits from interstate is projected to be between 89 and 131 though the period – at least 125 from 2003. A substantial national shortfall is projected from 2003 – of 1801 increasing to 2700 in 2005.

5.9 *Australian Capital Territory*

The Australian Capital Territory experienced growth in teacher numbers through the 1990s (at 4.9%) that was well above Victoria, South Australia and Tasmania, but less than a third the other States and Territory, and less than half the national average of 11%. Government sector PTRs, like those in most other government systems, increased during the first half of the 1990s, and decreased from 1995-1999. The nongovernment sector PTRs decreased very substantially in the first half of the 1990s. Overall, the ACT decrease through the 1990s was above the national average.

Between 1991 and 1998 commencing education enrolments fell by 36 at the University of Canberra, but increased by 17% at the Signadou campus of Australian Catholic University. Overall they fell by 30%, close to the national average.

Australian Capital Territory: projections

Primary student enrolments are projected by DETYA to fall between 2000 and 2003 before rising sharply (by 3.8% in the two years to 2005). Over the full period from 2000 to 2005 enrolments are projected to increase by just 0.6% (184).

Teacher numbers are projected by this report's model to decline between 2000 and 2003, then increase sharply (by 4.5% in the two years to 2005). The number of recruits required is projected to drop back in the middle of the period (2202 and 2003), then increase sharply (by more than 125% in two years).

The number of graduates is projected to be well above the number required through the period, especially in the period of lower demand, 2001-2003.

It is assumed that a high proportion of graduates take up (and had always planned to take up) positions in New South Wales, especially the southern part of the State. Therefore projections are provided that combine New South Wales and the ACT (see below).

Secondary student enrolments are projected by DETYA to decrease by 2.5% between 2000 and 2005 (683), falling throughout the period.

Teacher numbers are projected by this report to decrease by 0.8% (19).

The number of graduates required is expected to increase by 106% (76), from the small base of 72 in 2000. There is projected to be a large surplus of graduate supply over demand 2000-2002, but as many graduates can be expected to seek work in the region outside the ACT this surplus may not be a problem (Projections are also provided for New South Wales and the Australian Capital Territory combined – see below). However, from 2003 there is an increasing shortfall of supply relative to demand within the ACT, and over these years shortfalls are also projected for New South Wales as a whole. Even though student enrolments are projected to continue to decline, increasing net separation rates will continue to increase the demand for new teachers for some years. This is because of the projected age structure of secondary teachers, with increasing proportions both reaching retirement age and in the high separation younger years – in 2006 about 36% of secondary teachers in ACT government and nongovernment schools are projected to be over 50, and almost 20% under 30.

New South Wales and the Australian Capital Territory combined

New South Wales and the Australian Capital Territory projections are combined (Tables 17 and 18) because of the mobility of graduates (and teachers and potential re-entrants) between the two.

Primary teachers are projected to increase by 2.8%. Demand for graduates is projected to increase by 18%, and supply by 27%. Thus a surplus of supply over demand is projected to develop, peaking in 2003

Secondary teachers are projected to increase by 5.5%. Demand for graduates is projected to increase by 83%, and supply by 23. Thus a surplus in 2000 and 2001 is projected to become a shortfall of supply only being sufficient to meet 87% of demand in 2005 (just under 1% of the teaching workforce).

TABLE C: Projected surplus/shortage as a percentage of total primary teachers (positive indicates surplus, negative indicates shortage)

	2000	2001	2002	2003	2004	2005
NSW & ACT	0.2%	0.1%	0.7%	1.3%	0.8%	0.6%
VIC	-1.3%	-0.3%	-0.9%	-0.4%	-1.9%	-1.9%
QLD	-0.8%	-2.8%	-1.6%	-1.0%	-1.1%	-1.8%
WA	-1.5%	-1.3%	2.8%	1.9%	-0.4%	-1.2%
SA	0.2%	-0.4%	-0.1%	-0.2%	-1.1%	-1.4%
TAS	-1.5%	1.0%	0.8%	1.8%	0.2%	-0.7%
AUSTRALIA	-0.5%	-0.8%	0.0%	0.3%	-0.4%	-0.7%

TABLE D: Projected primary supply as a percentage of projected demand

	2000	2001	2002	2003	2004	2005
NSW & ACT	103%	102%	115%	127%	115%	111%
VIC	75%	95%	84%	92%	69%	69%
QLD	81%	65%	79%	86%	84%	77%
WA	70%	76%	551%	173%	91%	80%
SA	104%	91%	97%	96%	80%	75%
TAS	72%	125%	121%	153%	105%	85%
AUSTRALIA	90%	86%	100%	107%	93%	89%

TABLE E: Projected surplus/shortage as a percentage of total secondary teachers (positive indicates surplus, negative indicates shortage)

	2000	2001	2002	2003	2004	2005
NSW & ACT	1.1%	0.8%	0.3%	-0.4%	-0.5%	-0.9%
VIC	0.5%	-0.7%	-0.6%	-2.3%	-2.4%	-3.0%
QLD	-0.3%	0.2%	-0.6%	-1.8%	-1.7%	-2.9%
WA	-0.2%	-0.4%	-1.1%	-2.1%	-1.3%	-1.6%
SA	0.9%	-0.6%	-2.1%	-1.9%	-2.1%	-2.9%
TAS	3.3%	1.0%	1.3%	0.1%	-1.2%	-3.8%
AUSTRALIA	0.2%	0.0%	-0.5%	-1.5%	-1.5%	-2.2%

TABLE F: Projected secondary supply as a percentage of projected demand

	2000	2001	2002	2003	2004	2005
NSW & ACT	129%	117%	106%	93%	92%	87%
VIC	111%	88%	88%	67%	65%	59%
QLD	89%	103%	90%	76%	78%	66%
WA	97%	94%	83%	72%	80%	77%
SA	123%	83%	61%	66%	64%	56%
TAS	606%	141%	151%	102%	78%	51%
AUSTRALIA	105%	99%	91%	77%	78%	70%

Source: Tables 3 - 20

6. Methodological notes

These notes explain the sources and method for all the teacher (graduate) supply and demand projections, 2000 to 2005 for primary and secondary teachers (separately) in government and nongovernment schools (combined) in each State and Territory. The projections are set out in tables 1 to 20. (Note that 'graduates' are those who completed their course at the end of (or during) the previous year.)

A summary of these notes appears under each table. Additional details regarding sources, calculations and assumptions are available from the author on request.

The numbering of the notes refers to the row numbers in the tables for the States and the Australian Capital Territory. There are variations for the Northern Territory (tables 13 and 14), for New South Wales and the Australian Capital Territory combined (tables 17 and 18), and for Australia-wide (tables 19 and 20).

1. **Enrolments** of primary or secondary school students (for government and nongovernment schools combined) is from Projections of School Enrolments (April 2000, unpublished) provided by Schools Division of the Commonwealth Department of Education and Youth Affairs (DETYA). DETYA states that: 'These projections are based on 1998 and 1999 actual enrolments, Australian Bureau of Statistics population data (for estimating future entry into the first school year) and the maintenance of 1998-1999 grade progression ratios. They will not reflect such factors as the effects of future changes in education and immigration policy, Government policy, and social and economic conditions.' For Western Australia at the primary level, enrolment projections and other information provided by Western Australian school authorities are used because the proposed change in school starting age and changes to pre-year 1 provision are not taken into account in the DETYA projections.

2. **PTR (FTE)** is from ABS, *1999 Schools Australia* (Cat No 4221.0), with no change assumed during the period (except in scenarios where this is indicated). There have been some substantial changes since 1995 – decreases (improvements) in the number of students per teacher at the primary level in every State and Territory, most notable in Queensland and Tasmania; and little overall change in the number of students per teacher at the secondary level, but with increases (deterioration) in South Australia and Victoria, and a decrease in Queensland. It is possible that there will be some overall decrease in PTRs over the coming period - the fiscal and political environment appears conducive in the States and Territories, and nongovernment schools will receive substantially increased per capital grants from the Commonwealth. However, the grounds are not sufficiently strong to assume such an increase, and constant PTRs are assumed through the period 1999 - 2005, except for additional scenarios (such as that for primary teachers in Victoria). If changes in PTRs occur or are proposed the projections need to be adjusted or interpreted accordingly.

3. **Persons: FTE** is from ABS, *Schools Australia* (Cat No 4221.0), 1990 to 1999. There have been substantial increases in the ratio of persons to FTE teachers, and this trend shows no sign of slowing. ABS does not provide a primary/secondary breakdown in its data on teacher numbers (persons). The 2000 year figure is based on the 1999 ratio which is the average of the primary and secondary figures. The difference between primary and secondary is derived from data for the government sector, and, in some cases the nongovernment sector, in each State and Territory. The important figure for these projections is the change from year to year. This is assumed to be the same for primary and secondary in each state and territory, and to be constant through the period. The change is the average of the particular State or Territory's average annual change from 1990 to 1999 and the average annual change for Australia as a whole. This is a variation on the method used in previous reports, and is based on the assumption that, in general, those States and

Territories that have had high levels of annual change since 1990 will have lower levels from 1989 to 2005, and the reverse for those that had a low level of change from 1990 to 1999. Overall, the average change between 1990 and 1999 is assumed to continue over the coming period because of the overall Australian labour market trend of a lower proportion of full time workers, the changes in the teaching age structure, and the increasing proportion of teachers in the nongovernment sector which has a much higher ratio of persons: FTE than the government sector (in 1999 the ratios were 1.143 and 1.087 respectively). Of course changes in staffing practices, awards and agreements can change the situation within particular school authority jurisdictions at any time

This component of the model is important because the final projections are concerned with the relationship between the supply and demand of *persons* (for example, when a person graduates from an initial teacher education program it is irrelevant whether they were a part time or full time student, and, similarly when they are seeking or in employment as a teacher it is irrelevant whether the position is part or full time). Therefore it is essential that teacher numbers in the projections refer to actual persons, not full time equivalents. The difference is not trivial. For Australia as a whole in 1999 the FTE total number of teachers was 215 724, the actual number of teachers (persons) was 239 325, a difference of 23 601 teachers, or ten per cent. The ratio of persons: FTE has increased from 1.069 in 1990 to 1.1094 in 1999. At that rate of increase the ratio in 2005 would be 1.1363 - assuming constant 1999 FTE teacher numbers, that increase in ratio involves an increase in total teacher numbers (persons) of more than 5800 (or 2.4%) over six years – almost one thousand additional teachers a year.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments.

6. **Change** is the difference from the previous year's total teachers. The total teachers for 1999 was calculated (from DETYA enrolment data and PTR (persons) as in row 4) to get the change from 1999 to 2000.

7. **Net separation %** Separations are notoriously difficult to project. The method used seeks to overcome the difficulties in extrapolating from current rates of formal resignations and retirements (perhaps incorporating future retirements based on the age structure), and provide estimates based on calculated underlying national net separation rates for primary and secondary teachers in each five year age range, applied to the projected age structure for primary and secondary teachers in each State and Territory (except the Northern Territory, where a different method is used). The method is explained below.

It is important to note that the values in this row are generally lower than those derived from the usual methods of estimating separations. This is because this row is *net* separations, and includes returnees and reentrants as well as those leaving. Thus the values in the 'Graduates %' row are substantially higher than in previous projections because that is where reentrants and returnees were previously counted.

There are several steps in arriving at the net separation values in the projections 2000 to 2005. The derivation of the net separation rate for each year in each table is as follows:

First, underlying, Australia-wide, net separation rates for primary and secondary teachers in each five year age range was estimated using 1991 and 1996 national ABS Census data on the proportion of individuals with primary or secondary teaching qualifications in each five year age range who were in the occupation of school teacher.

Data from the two censuses was averaged to smooth out particular aberrations (such as the effects of the early 1990s recession). It was assumed that 80% of graduates enter teaching before age 30

(that is, a beginning ratio of 80 teachers out of every 100 with teaching qualifications). This is lower than the total percentage on the supply side of the model, which is around 85%. That approximately 85% is made up of 80% of graduates of the previous year being available and suitable (row 12), and 5% of recruits being first time teachers who are not graduates of the previous year (row 10). The slightly lower estimate of the proportion of graduates who eventually enter teaching used for calculating underlying net separation rates is in recognition that in 1991 and 1996 a proportion of those with teaching qualifications who were not teaching had never been teaching (or had not returned to teaching) not out of choice, but because there were not the positions available at the time they wanted them, and they had then become established in alternative careers.

The net separation rate is then estimated from the change in the proportion of people with teaching qualifications who were teachers from one age range to the next. Not surprisingly, young teachers have a high net separation rate (around 6%), teachers in their late 30s (especially primary teachers) have a negative net separation rate as reentrants and those returning from family leave out-number those exiting. The net separation rate increases to around 2% for teachers in their late 40s/early 50s when there are few reentrants/returnees, though exit rates are also not high. From mid 50s retirements take effect, and it is assumed that 85% of those aged 55-59, 95% of those aged 60-64 and 100% of those aged over 65 leave teaching in each five year period.

Second, to estimate future overall net separation rates for primary and secondary teachers in each state and territory the future age structure of the teaching workforce must be estimated. This is done for 2001 and 2006 by the following means: ABS 1996 Census data for the age structure of primary and secondary teachers in each state and territory provides the basis. The change in total teacher numbers between 1996 and 1999 (from ABS *Schools Australia*) is multiplied by 5/3 to obtain the change from 1996 to 2001 – and thus deriving the 'target' total teacher numbers for primary and secondary teachers in each State and Territory for 2001. The change in total teacher numbers between 2001 and 2005 in the projections in this report are multiplied by 6/5 to estimate the change between 2001 and 2006 – and thus the 2006 'target'. After the separation rates for the five year period for each age range have been applied to the 1996 Census data (for primary and secondary teachers in each State and Territory in each five year age range), the difference between the number of teachers remaining and the 'target' total teacher number is made up by allocating one fifth to the 20-24 age range, three fifths to the 25-29 age range, and one fifth to the 30-34 age range. This results in the estimated 2001 age structure for primary and secondary teachers in each State and Territory. The process is repeated for 2006.

Overall net separations rates for 2001 and 2006 are calculated by applying the 'underlying' net separation rates for each age range to the number of teachers in that age range. The total number of net separations is then calculated as a percentage of the total teacher number to derive the net separation rate. The difference between the 2001 and 2006 rates is divided by five, and this is added cumulatively each year from 2001 to 2005 to obtain the rate for that year (and subtracted to estimate the 2000 rate).

8. Net separation No is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. Recruits required is derived from adding the change in teacher numbers to the separation number (rows 6 and 8).

10. Graduates % is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are in three categories:

- There is a generally a standard 5% of total recruits who are graduates of earlier years who were not previously available (this takes the usual proportion of initial teacher

education graduates who enter teaching to around 85% - having this small proportion derived from a percentage of recruits recognises the importance of sensitivity to demand, especially for those who have been in other activities since completing their initial teacher education program). This category is reduced by one percentage point for every 5% of supply short of demand in the previous year because it is assumed that when there is a shortfall school authorities will seek to attract those who might not be otherwise available at that time, and positions will become more readily available in desirable locations, and thus will be taken up by those who might be finishing off further study or completing other activities, especially in the second half of the year.

- A second category of recruits who are not graduates of the previous year are those graduates of the year before the previous year (and, perhaps, earlier years) who were unable to gain employment in the previous year because there was a surplus in the State or Territory concerned. The proportion of graduates of the year before the previous year who remain available depends on the national situation of surplus or shortage in the previous year. There is no adequate data or useful qualitative information readily available on this matter. However, the assumptions in the projections model are based on the recognition that in a situation of general surplus in a home State, the option is often between a hard-to-staff situation (rural or remote location, or difficult urban school) in the home State or desirable positions in States experiencing general shortages. It is also assumed that those States expecting to experience shortfalls will begin actively recruiting interstate well before most recruitment in other States is finalised. The assumption in the model is that if there is a *national surplus*, then 60% of graduates unable to obtain a teaching position will remain available the following year (this is in addition to the 5% of recruits generally assumed to be graduates of years earlier than the previous year). If there are *national shortfalls*, availability is progressively lessened (55% for national shortage up to 250; 50% for shortage of 250-500; 45% for shortage of 500-750; 40% for shortage of 750-1000; 35% for shortage of 1000-1250; 30% for shortage of 1250-1500; 25% for shortage of 1500-1750; 20% for shortage of 1750-2000; 15% for shortage of 2000-2250; and if there is a national shortfall of more than 2,250 then only 10% will remain available in their home State or Territory the following year).
- The third category is an estimate of net interstate immigration if that is more than zero. Net interstate migration of initial teacher education graduates is estimated from ABS *1998-99 Migration* Cat. No. 3412.0 and *Population by age and sex* Cat. No. 3201.0 from which the net interstate migration rate of people aged 25-29 can be calculated for each State and Territory. This rate is small, and makes little difference to the final calculations, even in the Northern Territory the net gain is only 0.5% of the 25-29 age group – perhaps a misleading figure because graduates with teaching qualifications may be much more likely to be net arrivals in the NT than others in the age range.

11. Graduates No is derived from the previous two rows.

12. Availability/suitability % is the proportion of all graduates who are available and suitable for employment the year following completion of their course. It is generally assumed to be 80%. The figure is reduced by any net interstate migration out of the State or Territory (see above for sources), though the amount is generally very small - even for Tasmania, where it is a net loss of 1.64% of those aged 25 to 29. Note that, with the addition of graduates entering teaching later than the year after completion, about 85% of teacher education graduates are expected to enter teaching. This is a much higher rate of entry than that generally assumed for the USA, where only about 60% are assumed to enter teaching (Darling-Hammond 1999, p.6)

13. Total graduates (demand) is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13. It is thus on a comparable basis to 'Total graduates (supply)'.

14. Total graduates (supply) is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education), with adjustments such as discounting for early childhood graduates available for non-school early childhood settings.

15. Surplus/shortage (no) is the difference between demand and supply in number of persons.

16. Surplus/ shortage (% of total teachers) is the surplus/shortage number (row 15) as a percentage of 'Total teachers' (row 5). This is an important indicator for school authorities in assessing the likely impact of any projected shortfall or surplus on the administration of staffing and on the quality of education in schools.

17. Surplus/shortage (% of supply) is the surplus/shortage number (row 15) as a percentage of 'Total graduates (supply)' (row 14).

18. Surplus/shortage (% of demand) is the surplus/shortage number (row 15) as a percentage of 'Total graduates (demand)' (row 13).

19. Supply as % of demand is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus.

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TABLE 1: New South Wales, primary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	625 255	626 717	626 876	626 542	629 093	630 136
2. PTR (FTE)	17.94	17.94	17.94	17.94	17.94	17.94
3. Persons:FTE (teachers)	1.161	1.166	1.171	1.175	1.180	1.184
4. PTR (persons)	15.45	15.39	15.32	15.27	15.20	15.15
5. Total teachers	40 464	40 733	40 918	41 036	41 378	41 588
6. Change from prev. yr	214	269	185	118	342	209
7. Net separation %	3.6%	3.7%	3.9%	4.0%	4.2%	4.3%
8. Net separation number	1 447	1 516	1 583	1 648	1 723	1 792
9. Recruits required	1 661	1 785	1 768	1 766	2 065	2 002
10. Graduates %	95%	95%	95%	88%	85%	90%
11. Graduates number	1 578	1 696	1 680	1 554	1 755	1 801
12. Avail/suit %	80%	80%	80%	80%	80%	80%
13. Total graduates (demand)	**1 972**	**2 120**	**2 100**	**1 942**	**2 194**	**2 252**
14. Total graduates (supply)	**1 993**	**2 059**	**2 303**	**2 340**	**2 455**	**2 476**
15. Surplus/shortage (number)	21	-61	203	398	261	224
16. Surplus/shortage (% of total teachers)	0.1%	-0.1%	0.5%	1.0%	0.6%	0.5%
17. Surplus/shortage (% of demand)	1.1%	-2.9%	9.7%	20.5%	11.9%	10.0%
18. Surplus/shortage (% of supply)	1.1%	-3.0%	8.8%	17.0%	10.6%	9.1%
19. Supply as % of demand	**101.1%**	**97.1%**	**109.7%**	**120.5%**	**111.9%**	**110.0%**

Notes

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined; provided by DETYA, April 2000.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are mostly graduates of earlier years. Re-entrants and returnees are accounted for in 'net separation'. Graduates of earlier years are included in more substantial numbers when there is a surplus in the previous year. The proportion of any surplus of the previous year that is carried over varies according to the national surplus or shortfall (and thus the likelyhood that graduates would have taken up interstate positions). These projections do not take account of any future active recruitment campaigns to attract teachers from interstate.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be 80% (consistent with the assumption underlying Net separation % and Graduates % that about 80% of graduates enter teaching soon after graduating, and a usually small proportion enter teaching later on). 'Available' means generally available for actual vacancies - not for only the most desirable positions.

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

15. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

16. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 5). This is a key indicator for school authorities to judge the magnitude of any shortfall they have to manage.

17. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 14).

18. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 13).

19. **Supply as % of demand** is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus of graduates of graduates.

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TABLE 2: New South Wales, secondary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	464 546	465 243	469 122	473 398	476 891	481 470
2. PTR (FTE)	12.57	12.57	12.57	12.57	12.57	12.57
3. Persons:FTE (teachers)	1.083	1.088	1.093	1.097	1.102	1.106
4. PTR (persons)	11.60	11.55	11.50	11.46	11.40	11.36
5. Total teachers	40 034	40 279	40 801	41 324	41 819	42 373
6. Change from prev. yr	12	245	522	523	495	555
7. Net separation %	3.3%	3.5%	3.7%	3.9%	4.1%	4.3%
8. Net separation number	1 313	1 403	1 503	1 604	1 707	1 814
9. Recruits required	1 325	1 648	2 025	2 127	2 201	2 368
10. Graduates %	95%	88%	87%	95%	97%	97%
11. Graduates number	1 259	1 451	1 762	2 020	2 135	2 297
12. Avail/suit %	80%	80%	80%	80%	80%	80%
13. Total graduates (demand)	**1 574**	**1 813**	**2 202**	**2 526**	**2 669**	**2 872**
14. Total graduates (supply)	**2 032**	**2 215**	**2 183**	**2 238**	**2 294**	**2 312**
15. Surplus/shortage (number)	458	402	-19	-288	-375	-560
16. Surplus/shortage (% of total teachers)	1.1%	1.0%	0.0%	-0.7%	-0.9%	-1.3%
17. Surplus/shortage (% of demand)	29.1%	22.2%	-0.9%	-11.4%	-14.1%	-19.5%
18. Surplus/shortage (% of supply)	22.6%	18.1%	-0.9%	-12.8%	-16.3%	-24.2%
19. Supply as % of demand	**129.1%**	**122.2%**	**99.1%**	**88.6%**	**85.9%**	**80.5%**

Notes

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined; provided by DETYA, April 2000.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR).

8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are mostly graduates of earlier years. Re-entrants and returnees are accounted for in 'net separation'. Graduates of earlier years are included in more substantial numbers when there is a surplus in the previous year. The proportion of any surplus of the previous year that is carried over varies according to the national surplus or shortfall (and thus the likelyhood that graduates would have taken up interstate positions). These projections do not take account of any future active recruitment campaigns to attract teachers from interstate.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be 80% (consistent with the assumption underlying Net separation % and Graduates % that about 80% of graduates enter teaching soon after graduating, and a usually small proportion enter teaching later on). 'Available' means generally available for actual vacancies - not for only the most desirable positions.

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

15. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

16. Surplus/ shortage (% of total teachers) is row 15 as a percentage of 'Total teachers' (row 5). This is a key indicator for school authorities to judge the magnitude of any shortfall they have to manage.

17. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 14).

18. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 13).

19. **Supply as % of demand** is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus of graduates.

TABLE 3: Victoria, primary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	447 772	446 018	446 453	443 266	444 169	443 509
2. PTR (FTE)	17.49	17.49	17.49	17.49	17.49	17.49
3. Persons:FTE (teachers)	1.109	1.114	1.119	1.125	1.130	1.135
4. PTR (persons)	15.77	15.70	15.63	15.55	15.48	15.41
5. Total teachers	28 387	28 404	28 559	28 507	28 692	28 776
6. Change from prev. yr	149	16	155	-52	185	84
7. Net separation %	3.7%	3.8%	4.0%	4.2%	4.3%	4.5%
8. Net separation number	1 037	1 085	1 139	1 185	1 241	1 293
9. Recruits required	1 186	1 102	1 295	1 133	1 426	1 377
10. Graduates %	95%	99%	96%	98%	97%	100%
11. Graduates number	1 127	1 091	1 243	1 111	1 383	1 377
12. Avail/suit %	80%	80%	80%	80%	80%	80%
13. Total graduates (demand)	**1 408**	**1 363**	**1 553**	**1 388**	**1 729**	**1 721**
14. Total graduates (supply)	**1 053**	**1 290**	**1 301**	**1 282**	**1 188**	**1 185**
15. Surplus/shortage (number)	-355	-73	-252	-106	-541	-536
16. Surplus/shortage (% of total teachers)	-1.3%	-0.3%	-0.9%	-0.4%	-1.9%	-1.9%
17. Surplus/shortage (% of demand)	-25.2%	-5.4%	-16.2%	-7.7%	-31.3%	-31.2%
18. Surplus/shortage (% of supply)	-33.7%	-5.7%	-19.4%	-8.3%	-45.5%	-45.3%
19. Supply as % of demand	**74.8%**	**94.6%**	**83.8%**	**92.3%**	**68.7%**	**68.8%**

Notes

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined; provided by DETYA, April 2000.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period this does not include and increases in staffing

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR).

8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are mostly graduates of earlier years. Re-entrants and returnees are accounted for in 'net separation'. Graduates of earlier years are included in more substantial numbers when there is a surplus in the previous year. The proportion of any surplus of the previous year that is carried over varies according to the national surplus or shortfall (and thus the likelyhood that graduates would have taken up interstate positions). These projections do not take account of any future active recruitment campaigns to attract teachers from interstate.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be 80% (consistent with the assumption underlying Net separation % and Graduates % that about 80% of graduates enter teaching soon after graduating, and a usually small proportion enter teaching later on). 'Available' means generally available for actual vacancies - not for only the most desirable positions.

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

15. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

16. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 5). This is a key indicator for school

17. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 14).

18. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 13)

19. **Supply as % of demand** is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus of graduates.

TABLE 3a: Victoria, primary teacher supply and demand projections, 2000 to 2005

Scenario 1: Government commitment of 433 additional primary teachers in 2000

	2000	2001	2002	2003	2004	2005
1. Enrolments	447 772	446 018	446 453	443 266	444 169	443 509
2. PTR (FTE)	17.23	17.23	17.23	17.23	17.23	17.23
3. Persons:FTE (teachers)	1.109	1.114	1.119	1.125	1.130	1.135
4. PTR (persons)	15.54	15.47	15.40	15.32	15.25	15.18
5. Total teachers	28 821	28 837	28 995	28 942	29 130	29 215
6. Change from prev. yr	583	17	158	-53	188	85
7. Net separation %	3.7%	3.8%	4.0%	4.2%	4.3%	4.5%
8. Net separation number	1 053	1 102	1 157	1 203	1 260	1 313
9. Recruits required	1 636	1 118	1 314	1 151	1 448	1 398
10. Graduates %	95%	100%	97%	99%	97%	100%
11. Graduates number	1 554	1 118	1 275	1 139	1 404	1 398
12. Avail/suit %	80%	80%	80%	80%	80%	80%
13. Total graduates (demand)	**1 943**	**1 398**	**1 594**	**1 424**	**1 755**	**1 748**
14. Total graduates (supply)	**1 053**	**1 290**	**1 301**	**1 282**	**1 188**	**1 185**
15. Surplus/shortage (number)	-890	-108	-293	-142	-567	-563
16. Surplus/shortage (% of total teachers)	-3.1%	-0.4%	-1.0%	-0.5%	-1.9%	-1.9%
17. Surplus/shortage (% of demand)	-45.8%	-7.7%	-18.4%	-10.0%	-32.3%	-32.2%
18. Surplus/shortage (% of supply)	-84.5%	-8.4%	-22.5%	-11.1%	-47.8%	-47.5%
19. Supply as % of demand	**54.2%**	**92.3%**	**81.6%**	**90.0%**	**67.7%**	**67.8%**

Notes

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined; provided by DETYA, April 2000.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR).

8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are mostly graduates of earlier years. Re-entrants and returnees are accounted for in 'net separation'. Graduates of earlier years are included in more substantial numbers when there is a surplus in the previous year. The proportion of any surplus of the previous year that is carried over varies according to the national surplus or shortfall (and thus the likelyhood that graduates would have taken up interstate positions). These projections do not take account of any future active recruitment campaigns to attract teachers from interstate.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

15. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

16. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 5). This is a key indicator for school authorities to judge the magnitude of any shortfall they have to manage.

17. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 14).

18. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 13).

19. **Supply as % of demand** is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus of graduates.

TABLE 4: Victoria, secondary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	348 093	350 835	351 420	355 393	358 213	362 043
2. PTR (FTE)	12.50	12.50	12.50	12.50	12.50	12.50
3. Persons:FTE (teachers)	1.115	1.120	1.125	1.131	1.136	1.141
4. PTR (persons)	11.21	11.16	11.11	11.05	11.00	10.96
5. Total teachers	31 050	31 435	31 628	32 156	32 554	33 047
6. Change from prev. yr	94	385	193	528	398	493
7. Net separation %	3.2%	3.5%	3.7%	4.0%	4.2%	4.5%
8. Net separation number	1 000	1 092	1 179	1 280	1 378	1 482
9. Recruits required	1 094	1 477	1 372	1 808	1 776	1 975
10. Graduates %	95%	90%	97%	97%	100%	100%
11. Graduates number	1 039	1 329	1 331	1 754	1 776	1 975
12. Avail/suit %	80%	80%	80%	80%	80%	80%
13. Total graduates (demand)	**1 299**	**1 662**	**1 663**	**2 192**	**2 221**	**2 469**
14. Total graduates (supply)	**1 440**	**1 454**	**1 460**	**1 466**	**1 448**	**1 468**
15. Surplus/shortage (number)	141	-208	-203	-726	-773	-1 001
16. Surplus/shortage (% of total teachers)	0.5%	-0.7%	-0.6%	-2.3%	-2.4%	-3.0%
17. Surplus/shortage (% of demand)	10.9%	-12.5%	-12.2%	-33.1%	-34.8%	-40.5%
18. Surplus/shortage (% of supply)	9.8%	-14.3%	-13.9%	-49.5%	-53.3%	-68.2%
19. Supply as % of demand	**110.9%**	**87.5%**	**87.8%**	**66.9%**	**65.2%**	**59.5%**

Notes

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined, provided by DETYA, April 2000.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR).

8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are mostly graduates of earlier years. Re-entrants and returnees are accounted for in 'net separation'. Graduates of earlier years are included in more substantial numbers when there is a surplus in the previous year. The proportion of any surplus of the previous year that is carried over varies according to the national surplus or shortfall (and thus the likelyhood that graduates would have taken up interstate positions). These projections do not take account of any future active recruitment campaigns to attract teachers from interstate.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

15. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

16. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 5). This is a key indicator for school authorities to judge the magnitude of any shortfall they have to manage.

17. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 14).

18. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 13).

19. **Supply as % of demand** is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus.

TABLE 5: Queensland, primary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	367 212	374 266	379 932	383 956	388 227	394 011
2. PTR (FTE)	16.17	16.17	16.17	16.17	16.17	16.17
3. Persons:FTE (teachers)	1.090	1.095	1.099	1.103	1.107	1.111
4. PTR (persons)	14.83	14.77	14.71	14.66	14.61	14.55
5. Total teachers	24 753	25 345	25 822	26 191	26 578	27 072
6. Change from prev. yr	501	591	478	368	387	493
7. Net separation %	3.9%	4.1%	4.2%	4.3%	4.4%	4.6%
8. Net separation number	975	1 030	1 081	1 129	1 178	1 233
9. Recruits required	1 476	1 621	1 559	1 497	1 565	1 727
10. Graduates %	60%	97%	100%	99%	98%	98%
11. Graduates number	886	1 572	1 559	1 482	1 534	1 692
12. Avail/suit %	80%	80%	80%	80%	80%	80%
13. Total graduates (demand)	**1 110**	**1 970**	**1 953**	**1 857**	**1 922**	**2 120**
14. Total graduates (supply)	**903**	**1 273**	**1 538**	**1 597**	**1 618**	**1 631**
15. Surplus/shortage (number)	-207	-697	-415	-260	-304	-489
16. Surplus/shortage (% of total teachers)	-0.8%	-2.8%	-1.6%	-1.0%	-1.1%	-1.8%
17. Surplus/shortage (% of demand)	-18.6%	-35.4%	-21.3%	-14.0%	-15.8%	-23.1%
18. Surplus/shortage (% of supply)	-22.9%	-54.8%	-27.0%	-16.3%	-18.8%	-30.0%
19. Supply as % of demand	**81.4%**	**64.6%**	**78.7%**	**86.0%**	**84.2%**	**76.9%**

Notes

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined; provided by DETYA, April 2000.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR).

8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are mostly graduates of earlier years. Re-entrants and returnees are accounted for in 'net separation'. Graduates of earlier years are included in more substantial numbers when there is a surplus in the previous year. The proportion of any surplus of the previous year that is carried over varies according to the national surplus or shortfall (and thus the likelyhood that graduates would have taken up interstate positions). These projections do not take account of any future active recruitment campaigns to attract teachers from interstate.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be 80% (consistent with the assumption underlying Net separation % and Graduates % that about 80% of graduates enter teaching soon after graduating, and a usually small proportion enter teaching later on). 'Available' means generally available for actual vacancies - not for only the most desirable positions.

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

15. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

16. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 5). This is a key indicator for school authorities to judge the magnitude of any shortfall they have to manage.

17. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 14).

18. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 13).

19. **Supply as % of demand** is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus.

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TABLE 6: Queensland, secondary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	234 099	234 263	237 078	241 511	246 115	252 318
2. PTR (FTE)	12.80	12.80	12.80	12.80	12.80	12.80
3. Persons:FTE (teachers)	1.068	1.073	1.077	1.081	1.085	1.089
4. PTR (persons)	11.99	11.93	11.89	11.84	11.80	11.76
5. Total teachers	19 527	19 632	19 942	20 390	20 856	21 460
6. Change from prev. yr	34	105	310	448	466	604
7. Net separation %	3.6%	3.7%	3.8%	3.9%	4.0%	4.1%
8. Net separation number	702	726	758	796	836	882
9. Recruits required	736	831	1 068	1 245	1 301	1 487
10. Graduates %	60%	97%	95%	97%	99%	98%
11. Graduates number	442	806	1 015	1 207	1 288	1 457
12. Avail/suit %	80%	80%	80%	80%	80%	80%
13. Total graduates (demand)	**554**	**1 010**	**1 272**	**1 513**	**1 615**	**1 826**
14. Total graduates (supply)	**495**	**1 045**	**1 149**	**1 148**	**1 258**	**1 201**
15. Surplus/shortage (number)	-59	35	-123	-365	-357	-625
16. Surplus/shortage (% of total teachers)	-0.3%	0.2%	-0.6%	-1.8%	-1.7%	-2.9%
17. Surplus/shortage (% of demand)	-10.6%	3.4%	-9.6%	-24.1%	-22.1%	-34.2%
18. Surplus/shortage (% of supply)	-11.8%	3.3%	-10.7%	-31.8%	-28.3%	-52.0%
19. Supply as % of demand	**89.4%**	**103.4%**	**90.4%**	**75.9%**	**77.9%**	**66.8%**

Notes

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined; provided by DETYA, April 2000.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR).

8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are mostly graduates of earlier years. Re-entrants and returnees are accounted for in 'net separation'. Graduates of earlier years are included in more substantial numbers when there is a surplus in the previous year. The proportion of any surplus of the previous year that is carried over varies according to the national surplus or shortfall (and thus the likelyhood that graduates would have taken up interstate positions). These projections do not take account of any future active recruitment campaigns to attract teachers from interstate.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be 80% (consistent with the assumption underlying Net separation % and Graduates % that about 80% of graduates enter teaching soon after graduating, and a usually small proportion enter teaching later on). 'Available' means generally available for actual vacancies - not for only the most desirable positions.

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

15. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

16. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 5). This is a key indicator for school authorities to judge the magnitude of any shortfall they have to manage.

17. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 14).

18. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 13)

19. **Supply as % of demand** is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus.

TABLE 7: Western Australia, primary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	214 721	215 378	207 434	207 101	208 762	209 842
2. PTR (FTE)	17.54	17.54	17.54	17.54	17.54	17.54
3. Persons:FTE (teachers)	1.162	1.166	1.171	1.176	1.181	1.181
4. PTR (persons)	15.09	15.04	14.98	14.91	14.85	14.85
5. Total teachers	14 227	14 319	13 850	13 887	14 058	14 131
6. Change from prev. yr	91	93	-469	37	171	73
7. Net separation %	3.6%	3.8%	3.9%	4.0%	4.1%	4.3%
8. Net separation number	518	539	538	557	581	601
9. Recruits required	609	631	69	593	752	674
10. Graduates %	95%	99%	99%	50%	78%	98%
11. Graduates number	578	625	68	297	586	660
12. Avail/suit %	80%	80%	80%	80%	80%	80%
13. Total graduates (demand)	**723**	**781**	**86**	**371**	**733**	**825**
14. Total graduates (supply)	**507**	**592**	**471**	**641**	**670**	**662**
15. Surplus/shortage (number)	**-216**	**-189**	**385**	**270**	**-63**	**-163**
16. Surplus/shortage (% of total teachers)	**-1.5%**	**-1.3%**	**2.8%**	**1.9%**	**-0.4%**	**-1.2%**
17. Surplus/shortage (% of demand)	**-29.9%**	**-24.2%**	**450.8%**	**72.8%**	**-8.6%**	**-19.8%**
18. Surplus/shortage (% of supply)	**-42.6%**	**-32.0%**	**81.8%**	**42.1%**	**-9.4%**	**-24.7%**
19. Supply as % of demand	**70.1%**	**75.8%**	**550.8%**	**172.8%**	**91.4%**	**80.2%**

Notes

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** DETYA student enrolment projections are not used for WA primary. The estimate for student enrolments is derived from enrolment projections provided by the Education Department of WA, June 2000 for all schools (government and nongovernment) for years 1 to 7 and for government sector pre-primary students, and information provided by the Catholic Education Commission of WA. FTE 'Pre-primary' (PP) students are included. These students in the government sector attend on a part-time 0.8 basis in 2000 and 2001, and begin attending on a full time basis in 2002. In the Catholic sector they already attend on a full time basis.It is assumed that for the nongovernment sector as a whole the PP enrolment is 80% of the year 1 enrolment for the following year. In 2002 the PP cohort is halved in size by the change in school starting age. The half size cohort enters year 1 in 2003, and secondary school (year 8) in 2010, when there will be a sharp reduction in secondary teacher demand, other things being equal. 'Kindergarten' (four year olds) are not included in these projections.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR).

8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are mostly graduates of earlier years. Re-entrants and returnees are accounted for in 'net separation'. Graduates of earlier years are included in more substantial numbers when there is a surplus in the previous year. The proportion of any surplus of the previous year that is carried over varies according to the national surplus or shortfall (and thus the likelyhood that graduates would have taken up interstate positions). These projections do not take account of any future active recruitment campaigns to attract teachers from interstate.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned. In general around 50% of EC graduates are apportioned to schools. However, in 2002 (completion in 2001) all 182 projected EC graduates in WA are apportioned to nonschool settings because of the increase in demand of approximately 250 teachers for kindergarten as the half size cohort moves out of K after the number of sessions for students doubled in 2001.

15. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

16. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 5). This is a key indicator for school

17. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 14).

18. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 13).

19. **Supply as % of demand** is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus.

TABLE 8: Western Australia, secondary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	126 077	127 525	128 916	130 858	131 872	133 089
2. PTR (FTE)	12.50	12.50	12.50	12.50	12.50	12.50
3. Persons:FTE (teachers)	1.104	1.108	1.113	1.118	1.123	1.128
4. PTR (persons)	11.32	11.28	11.23	11.18	11.13	11.08
5. Total teachers	11 135	11 304	11 479	11 704	11 847	12 010
6. Change from prev. yr	112	169	175	225	143	163
7. Net separation %	3.6%	3.7%	3.9%	4.0%	4.1%	4.3%
8. Net separation number	400	421	443	468	490	513
9. Recruits required	512	590	618	693	633	676
10. Graduates %	95%	96%	96%	99%	100%	100%
11. Graduates number	486	566	594	686	633	676
12. Avail/suit %	80%	80%	80%	80%	80%	80%
13. Total graduates (demand)	**608**	**708**	**742**	**858**	**792**	**845**
14. Total graduates (supply)	**589**	**663**	**614**	**614**	**634**	**649**
15. Surplus/shortage (number)	-19	-45	-128	-244	-158	-196
16. Surplus/shortage (% of total teachers)	-0.2%	-0.4%	-1.1%	-2.1%	-1.3%	-1.6%
17. Surplus/shortage (% of demand)	-3.1%	-6.3%	-17.2%	-28.4%	-19.9%	-23.2%
18. Surplus/shortage (% of supply)	-3.2%	-6.8%	-20.8%	-39.8%	-24.9%	-30.1%
19. Supply as % of demand	**96.9%**	**93.7%**	**82.8%**	**71.6%**	**80.1%**	**76.8%**

Notes

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined; provided by DETYA, April 2000.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR).

8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are mostly graduates of earlier years. Re-entrants and returnees are accounted for in 'net separation'. Graduates of earlier years are included in more substantial numbers when there is a surplus in the previous year. The proportion of any surplus of the previous year that is carried over varies according to the national surplus or shortfall (and thus the likelyhood that graduates would have taken up interstate positions). These projections do not take account of any future active recruitment campaigns to attract teachers from interstate.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be 80% (consistent with the assumption underlying Net separation % and Graduates % that about 80% of graduates enter teaching soon after graduating, and a usually small proportion enter teaching later on). 'Available' means generally available for actual vacancies - not for only the most desirable positions.

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

15. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

16. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 5). This is a key indicator for school authorities to judge the magnitude of any shortfall they have to manage.

17. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 14).

18. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 13)

19. **Supply as % of demand** is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus of graduates.

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TABLE 9: South Australia, primary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	159 269	158 672	157 802	156 851	156 291	155 527
2. PTR (FTE)	16.16	16.16	16.16	16.16	16.16	16.16
3. Persons:FTE (teachers)	1.161	1.164	1.168	1.172	1.176	1.180
4. PTR (persons)	13.92	13.88	13.84	13.79	13.74	13.70
5. Total teachers	11 441	11 428	11 404	11 374	11 372	11 355
6. Change from prev. yr	-21	-13	-24	-30	-2	-17
7. Net separation %	3.5%	3.8%	4.0%	4.2%	4.4%	4.6%
8. Net separation number	406	429	453	475	499	522
9. Recruits required	385	416	429	445	497	505
10. Graduates %	95%	95%	97%	96%	96%	100%
11. Graduates number	365	395	416	428	477	505
12. Avail/suit %	79%	79%	79%	79%	79%	79%
13. Total graduates (demand)	**463**	**500**	**527**	**541**	**604**	**640**
14. Total graduates (supply)	**480**	**457**	**513**	**522**	**482**	**482**
15. Surplus/shortage (number)	17	-43	-14	-19	-122	-158
16. Surplus/shortage (% of total teachers)	0.2%	-0.4%	-0.1%	-0.2%	-1.1%	-1.4%
17. Surplus/shortage (% of demand)	3.8%	-8.6%	-2.6%	-3.6%	-20.2%	-24.7%
18. Surplus/shortage (% of supply)	3.6%	-9.4%	-2.7%	-3.7%	-25.4%	-32.7%
19. Supply as % of demand	**103.8%**	**91.4%**	**97.4%**	**96.4%**	**79.8%**	**75.3%**

Notes

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined; provided by DETYA, April 2000.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR).

8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are mostly graduates of earlier years. Re-entrants and returnees are accounted for in 'net separation'. Graduates of earlier years are included in more substantial numbers when there is a surplus in the previous year. The proportion of any surplus of the previous year that is carried over varies according to the national surplus or shortfall (and thus the likelihood that graduates would have taken up interstate positions). These projections do not take account of any future active recruitment campaigns to attract teachers from interstate.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be 80% (consistent with the assumption underlying Net separation % and Graduates % that about 80% of graduates enter teaching soon after graduating, and a usually small proportion enter teaching later on). 'Available' means generally available for actual vacancies - not for only the most desirable positions.

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

15. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

16. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 5). This is a key indicator for school authorities to judge the magnitude of any shortfall they have to manage.

17. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 14).

18. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 13).

19. **Supply as % of demand** is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus.

TABLE 10: South Australia secondary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	90 362	89 947	89 804	89 588	89 238	89 223
2. PTR (FTE)	12.14	12.14	12.14	12.14	12.14	12.14
3. Persons:FTE (teachers)	1.083	1.086	1.090	1.094	1.098	1.102
4. PTR (persons)	11.21	11.18	11.14	11.10	11.06	11.02
5. Total teachers	8 061	8 046	8 063	8 073	8 071	8 099
6. Change from prev. yr	-15	-15	17	10	-2	28
7. Net separation %	3.4%	3.7%	4.0%	4.3%	4.5%	4.8%
8. Net separation number	272	295	319	343	367	391
9. Recruits required	257	280	336	353	364	419
10. Graduates %	95%	85%	99%	100%	100%	100%
11. Graduates number	244	238	333	353	364	419
12. Avail/suit %	79%	79%	79%	79%	79%	79%
13. Total graduates (demand)	**308**	**301**	**420**	**446**	**460**	**529**
14. Total graduates (supply)	**379**	**251**	**254**	**292**	**294**	**294**
15. Surplus/shortage (number)	71	-50	-166	-154	-166	-235
16. Surplus/shortage (% of total teachers)	0.9%	-0.6%	-2.1%	-1.9%	-2.1%	-2.9%
17. Surplus/shortage (% of demand)	23.0%	-16.5%	-39.5%	-34.5%	-36.0%	-44.4%
18. Surplus/shortage (% of supply)	18.7%	-19.8%	-65.2%	-52.6%	-56.3%	-79.9%
19. Supply as % of demand	**123.0%**	**83.5%**	**60.5%**	**65.5%**	**64.0%**	**55.6%**

Notes

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined; provided by DETYA, April 2000.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR).

8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are mostly graduates of earlier years. Re-entrants and returnees are accounted for in 'net separation'. Graduates of earlier years are included in more substantial numbers when there is a surplus in the previous year. The proportion of any surplus of the previous year that is carried over varies according to the national surplus or shortfall (and thus the likelyhood that graduates would have taken up interstate positions). These projections do not take account of any future active recruitment campaigns to attract teachers from interstate.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be 80% (consistent with the assumption underlying Net separation % and Graduates % that about 80% of graduates enter teaching soon after graduating, and a usually small proportion enter teaching later on). 'Available' means generally available for actual vacancies - not for only the most desirable positions.

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

15. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

16. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 5). This is a key indicator for school authorities to judge the magnitude of any shortfall they have to manage.

17. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 14).

18. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 13).

19. **Supply as % of demand** is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus.

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TABLE 11: Tasmania, primary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	47 557	47 145	46 580	45 925	45 862	45 623
2. PTR (FTE)	16.17	16.17	16.17	16.17	16.17	16.17
3. Persons:FTE (teachers)	1.198	1.201	1.205	1.208	1.211	1.214
4. PTR (persons)	13.50	13.46	13.42	13.39	13.35	13.32
5. Total teachers	3 523	3 502	3 471	3 431	3 435	3 425
6. Change from prev. yr	25	-22	-30	-40	4	-9
7. Net separation %	3.8%	3.9%	4.0%	4.2%	4.3%	4.4%
8. Net separation number	135	138	140	143	147	150
9. Recruits required	160	116	110	102	151	141
10. Graduates %	95%	100%	87%	87%	75%	95%
11. Graduates number	152	116	96	89	113	134
12. Avail/suit %	78%	78%	78%	78%	78%	78%
13. Total graduates (demand)	**194**	**149**	**123**	**114**	**145**	**171**
14. Total graduates (supply)	**140**	**185**	**149**	**175**	**152**	**146**
15. Surplus/shortage (number)	-54	36	26	61	7	-25
16. Surplus/shortage (% of total teachers)	-1.5%	1.0%	0.8%	1.8%	0.2%	-0.7%
17. Surplus/shortage (% of demand)	-28.0%	24.6%	21.4%	53.2%	5.0%	-14.8%
18. Surplus/shortage (% of supply)	-38.9%	19.7%	17.6%	34.7%	4.8%	-17.4%
19. Supply as % of demand	**72.0%**	**124.6%**	**121.4%**	**153.2%**	**105.0%**	**85.2%**

Notes

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined; provided by DETYA, April 2000.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR).

8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are mostly graduates of earlier years. Re-entrants and returnees are accounted for in 'net separation'. Graduates of earlier years are included in more substantial numbers when there is a surplus in the previous year. The proportion of any surplus of the previous year that is carried over varies according to the national surplus or shortfall (and thus the likelyhood that graduates would have taken up interstate positions). These projections do not take account of any future active recruitment campaigns to attract teachers from interstate.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be 80% (consistent with the assumption underlying Net separation % and Graduates % that about 80% of graduates enter teaching soon after graduating, and a usually small proportion enter teaching later on). 'Available' means generally available for actual vacancies - not for only the most desirable positions.

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

15. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

16. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 5). This is a key indicator for school authorities to judge the magnitude of any shortfall they have to manage.

17. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 14).

18. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 13)

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19. **Supply as % of demand** is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus.

TABLE 12: Tasmania, secondary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	35 599	35 094	34 578	34 443	34 363	34 848
2. PTR (FTE)	12.97	12.97	12.97	12.97	12.97	12.97
3. Persons:FTE (teachers)	1.136	1.139	1.143	1.146	1.149	1.153
4. PTR (persons)	11.42	11.39	11.35	11.32	11.29	11.25
5. Total teachers	3 117	3 081	3 046	3 042	3 043	3 097
6. Change from prev. yr	-82	-36	-35	-4	1	54
7. Net separation %	3.2%	3.4%	3.7%	4.0%	4.3%	4.3%
8. Net separation number	99	106	113	121	129	132
9. Recruits required	17	70	78	117	130	185
10. Graduates %	95%	80%	80%	80%	95%	100%
11. Graduates number	16	56	63	94	124	185
12. Avail/suit %	78%	78%	78%	78%	78%	78%
13. Total graduates (demand)	**20**	**72**	**80**	**120**	**159**	**238**
14. Total graduates (supply)	**123**	**101**	**121**	**123**	**123**	**120**
15. Surplus/shortage (number)	103	29	41	3	-36	-118
16. Surplus/shortage (% of total teachers)	3.3%	1.0%	1.3%	0.1%	-1.2%	-3.8%
17. Surplus/shortage (% of demand)	506.4%	41.2%	50.6%	2.3%	-22.5%	-49.5%
18. Surplus/shortage (% of supply)	83.5%	29.2%	33.6%	2.3%	-29.0%	-98.0%
19. Supply as % of demand	**606.4%**	**141.2%**	**150.6%**	**102.3%**	**77.5%**	**50.5%**

Notes

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined, provided by DETYA, April 2000.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR).

8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are mostly graduates of earlier years. Re-entrants and returnees are accounted for in 'net separation'. Graduates of earlier years are included in more substantial numbers when there is a surplus in the previous year. The proportion of any surplus of the previous year that is carried over varies according to the national surplus or shortfall (and thus the likelyhood that graduates would have taken up interstate positions). These projections do not take account of any future active recruitment campaigns to attract teachers from interstate.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be 80% (consistent with the assumption underlying Net separation % and Graduates % that about 80% of graduates enter teaching soon after graduating, and a usually small proportion enter teaching later on). 'Available' means generally available for actual vacancies - not for only the most desirable positions.

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

15. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

16. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 5). This is a key indicator for school authorities to judge the magnitude of any shortfall or surplus they have to manage.

17. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 14).

18. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 13).

19. **Supply as % of demand** is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus.

TABLE 13: Northern Territory, primary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	26 434	26 787	27 135	27 135	26 983	26 868
2. PTR (FTE)	14.48	14.48	14.48	14.48	14.48	14.48
3. Persons:FTE (teachers)	1.150	1.154	1.157	1.161	1.164	1.168
4. PTR (persons)	12.59	12.55	12.51	12.47	12.44	12.39
5. Total teachers	2 100	2 135	2 169	2 176	2 170	2 168
6. Change from prev. yr	32	35	33	7	-7	-2
7. Separation %	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%
8. Separation number	178	181	184	185	184	184
9. Recruits required	**210**	**217**	**218**	**192**	**178**	**182**
10. Graduates %	**24%**	**27%**	**38%**	**53%**	**66%**	**67%**
11. Graduates number	51	59	83	102	117	122
12. Avail/suit %	80%	80%	80%	80%	80%	80%
13. Total graduates (demand)	63	73	103	127	147	153
14. Total graduates (supply)	63	74	103	127	147	153
15. Supply as % of demand	99.8%	101.1%	99.6%	99.6%	100.2%	100.2%
16. Interstate recruits number	**160**	**158**	**135**	**90**	**60**	**60**

Notes

The Northern Territory is assumed to continue to meet the very large majority of its requirements from sources other than the Territory's two teacher education institutions. This table is therefore structured differently to those of the other States because the supply of graduates in proportion to demand is not such a meaningful statistic. Rather, supply has been set at around 100% of demand, and the 'Recruits required' and 'Graduates %' rows provide the more important information. They indicate the level of importance for the NT of recruits from interstate. The projected number of interstate recruits required is provided in row 16. Alternative scenarios can be developed with different separation rates and other variations.

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined, provided by DETYA, April 2000.
2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.
3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.
4. **PTR (persons)** is derived from rows 2 and 3.
5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).
6. **Change** is the difference from the previous year's total teachers.
7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR). The net separation values for the Northern Territory have a higher degree of uncertainty than those of the States because the method used is not applicable (because of the different patterns of movement of people with teaching qualifications in and out of the Territory). If better estimates of net separation rates can be developed than alternative scenarios can be produced.
8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).
9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).
10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are graduates of earlier years, and teachers from interstate and overseas (small numbers). Re-entrants and returnees are accounted for in 'net separation'. These projections do not take account of any future active recruitment campaigns to attract teachers from interstate.
11. **Graduates No** is derived from the previous two rows.
12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be 80% (consistent with the assumption underlying Net separation % and Graduates % that about 80% of graduates enter teaching soon after graduating, and a usually small proportion enter teaching later on). 'Available' means generally available for actual vacancies - not for only the most desirable positions.
13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.
14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.
15. **Supply as % of demand** is row 14 as percentage of row 13. This is artificially set at close to 100% so that the number of interstate recruits reqired can be projected.
16. **Interstate recruits number** is derived by taking the number of graduates (available and suitable for recruitment) from the total number of recruits required (row 9 minus row 11).

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TABLE 14: Northern Territory secondary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	11 636	11 641	11 567	11 836	12 170	12 409
2. PTR (FTE)	10.86	10.86	10.86	10.86	10.86	10.86
3. Persons:FTE (teachers)	1.056	1.060	1.063	1.067	1.070	1.074
4. PTR (persons)	10.29	10.25	10.22	10.18	10.15	10.11
5. Total teachers	1 131	1 136	1 132	1 163	1 199	1 227
6. Change from prev. yr	-7	5	-4	31	36	28
7. Separation %	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
8. Separation number	113	114	113	116	120	123
9. Recruits required	**106**	**118**	**109**	**147**	**156**	**151**
10. Graduates %	**16%**	**15%**	**18%**	**15%**	**16%**	**17%**
11. Graduates number	17	18	20	22	25	26
12. Avail/suit %	80%	80%	80%	80%	80%	80%
13. Total graduates (demand)	21	22	25	28	31	32
14. Total graduates (supply)	22	22	25	28	32	32
15. Supply as % of demand	103.6%	99.1%	101.8%	101.6%	102.5%	99.8%
16. Interstate recruits number	**89**	**101**	**90**	**125**	**131**	**125**

Notes

The Northern Territory is assumed to continue to meet the very large majority of its requirements from sources other than the Territory's two teacher education institutions. This table is therefore structured differently to those of the other States because the supply of graduates in proportion to demand is not such a meaningful statistic. Rather, supply has been set at around 100% of demand, and the 'Recruits required' and 'Graduates %' rows provide the more important information. They indicate the level of importance for the NT of recruits from interstate. The projected number of interstate recruits required is provided in row 16. Alternative scenarios can be developed with different separation rates and other variations.

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined; provided by DETYA, April 2000.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR). The net separation values for the Northern Territory have a higher degree of uncertainty than those of the States because the method used is not applicable (because of the different patterns of movement of people with teaching qualifications in and out of the Territory). If better estimates of net separation rates can be developed than alternative scenarios can be run.

8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are graduates of earlier years, and teachers from interstate and overseas (small numbers). Re-entrants and returnees are accounted for in 'net separation'. These projections do not take account of any future active recruitment campaigns to attract teachers from interstate.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be 80% (consistent with the assumption underlying Net separation % and Graduates % that about 80% of graduates enter teaching soon after graduating, and a usually small proportion enter teaching later on). 'Available' means generally available for actual vacancies - not for only the most desirable positions.

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

15. **Supply as % of demand** is row 14 as percentage of row 13. This is artificially set at close to 100% so that the number of interstate recruits reqired can be projected.

16. **Interstate recruits number** is derived by taking the number of graduates (available and suitable for recruitment) from the total number of recruits required (row 9 minus row 11).

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TABLE 15: Australian Capital Territory, primary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	32 135	32 007	31 622	31 125	31 564	32 319
2. PTR (FTE)	17.98	17.98	17.98	17.98	17.98	17.98
3. Persons:FTE (teachers)	1.089	1.093	1.096	1.100	1.103	1.107
4. PTR (persons)	16.51	16.45	16.41	16.35	16.30	16.24
5. Total teachers	1 946	1 946	1 928	1 904	1 936	1 990
6. Change from prev. yr	-7	-1	-18	-23	32	53
7. Net separation %	4.5%	4.6%	4.7%	4.9%	5.0%	5.1%
8. Net separation number	87	90	91	93	97	102
9. Recruits required	80	89	73	69	129	156
10. Graduates %	95%	95%	95%	95%	95%	95%
11. Graduates number	76	85	70	66	123	148
12. Avail/suit %	80%	80%	80%	80%	80%	80%
13. Total graduates (demand)	**95**	**106**	**87**	**82**	**153**	**185**
14. Total graduates (supply)	**139**	**217**	**204**	**227**	**240**	**235**
15. Surplus/shortage (number)	44	111	117	145	87	50
16. Surplus/shortage (% of total teachers)	2.3%	5.7%	6.1%	7.6%	4.5%	2.5%
17. Surplus/shortage (% of demand)	46.3%	105.3%	134.6%	175.5%	56.6%	27.1%
18. Surplus/shortage (% of supply)	31.7%	51.3%	57.4%	63.7%	36.1%	21.3%
19. Supply as % of demand	**146.3%**	**205.3%**	**234.6%**	**275.5%**	**156.6%**	**127.1%**

Notes

The projected surpluses of supply over demand for the ACT should not be interpreted as a problem for ACT universities or school authorities. The ACT has permeable borders compared with the States. In particular, graduates of teacher education programs in the ACT take up positions in the surrounding regions of NSW. A parallel might be Newcastle University graduates, where is is clearly appropriate to consider then taking up positions outside the Newcastle metropolitan region. However, there may still be value for the ACT universities and the ACT school authorities to have specific ACT demand and supply projections. Additional tables (17 and 18) combine NSW and ACT totals for teacher numbers, demand and supply, and provide the standard analyses.

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined; provided by DETYA, April 2000.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR).

8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are graduates of earlier years, and teachers from interstate and overseas (small numbers). Re-entrants and returnees are accounted for in 'net separation'. Unlike the States, in the ACT there is not assumed to be a large carry-over of graduates from previous years when there is a surplus. However, scenarios could be developed with the assumption that graduates unable to find positions in the ACT do not find them in the surrounding regions or other places outside the ACT, but remain available in the ACT from one year to the next.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be 80% (consistent with the assumption underlying Net separation % and Graduates % that about 80% of graduates enter teaching soon after graduating, and a usually small proportion enter teaching later on). 'Available' means generally available for actual vacancies - not for only the most desirable positions.

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

15. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

16. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 5).

17. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 14).

18. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 13)

19. **Supply as % of demand** is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus of graduates.

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TABLE 16: Australian Capital Territory, secondary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Enrolments	27 771	27 366	27 301	27 174	27 132	27 088
2. PTR (FTE)	12.73	12.73	12.73	12.73	12.73	12.73
3. Persons:FTE (teachers)	1.071	1.075	1.078	1.082	1.085	1.089
4. PTR (persons)	11.88	11.84	11.81	11.76	11.73	11.69
5. Total teachers	2 337	2 312	2 313	2 310	2 313	2 318
6. Change from prev. yr	-30	-26	1	-2	3	5
7. Net separation %	3.9%	4.1%	4.4%	4.6%	4.9%	5.2%
8. Net separation number	91	96	102	107	113	120
9. Recruits required	61	70	103	105	116	124
10. Graduates %	95%	95%	95%	95%	95%	95%
11. Graduates number	58	67	97	100	110	118
12. Avail/suit %	80%	80%	80%	80%	80%	80%
13. Total graduates (demand)	**72**	**83**	**122**	**125**	**138**	**148**
14. Total graduates (supply)	**115**	**167**	**140**	**122**	**125**	**125**
15. Surplus/shortage (number)	43	84	18	-3	-13	-23
16. Surplus/shortage (% of total teachers)	1.8%	3.6%	0.8%	-0.1%	-0.6%	-1.0%
17. Surplus/shortage (% of demand)	59.3%	100.4%	14.9%	-2.3%	-9.5%	-15.3%
18. Surplus/shortage (% of supply)	37.2%	50.1%	13.0%	-2.4%	-10.5%	-18.1%
19. Supply as % of demand	**159.3%**	**200.4%**	**114.9%**	**97.7%**	**90.5%**	**84.7%**

Notes

The projected surpluses of supply over demand for the ACT should not be interpreted as a problem for ACT universities or school authorities, though the projected shortfall later in the period should be monitored. The ACT has permeable borders compared with the States. In particular, graduates of teacher education programs in the ACT take up positions in the surrounding regions of NSW. A parallel might be Newcastle University graduates, where is is clearly appropriate to consider then taking up positions outside the Newcastle metropolitan region. However, if the university is unable to meet even local demand (as is projected to be the case for the ACT later in the period), then there are likely to be problems in the surrounding regions as well as locally. Additional tables (17 and 18) combine NSW and ACT totals for teacher numbers, demand and supply, and provide the standard analyses.

Numbering refers to rows. Sources, and the methods for deriving values for rows 3, 7, 10, 12 and 14, are detailed in the methodological notes.

1. **Enrolments** projections are for government and nongovernment schools combined; provided by DETYA, April 2000.

2. **PTR (FTE)** from ABS, *1999 Schools Australia*, with no change assumed during the period.

3. **Persons: FTE** is derived from ABS, Schools Australia, 1990 to 1999. The projections are concerned with the relationship between the supply and demand of persons, not full time equivalents.

4. **PTR (persons)** is derived from rows 2 and 3.

5. **Total teachers** is derived from the PTR (persons) and Enrolments (rows 4 and 1).

6. **Change** is the difference from the previous year's total teachers.

7. **Net separation %** takes account of returnees and reentrants as well as those leaving (resignations, retirements, unavailability after a period of casual or limited term employment, or the taking of or returning from leave not accounted for in PTR).

8. **Net separation No** is derived by applying the rate to the total number of teachers in that year (rows 7 and 5).

9. **Recruits required** is derived by adding the change in teacher numbers to the separation number (rows 6 and 8).

10. **Graduates %** is the proportion of recruits who are graduates of the previous year. Those not included in 'graduates %', and thus make up the residual, are graduates of earlier years, and teachers from interstate and overseas (small numbers). Re-entrants and returnees are accounted for in 'net separation'. Unlike the States, in the ACT there is not assumed to be a large carry-over of graduates from previous years when there is a surplus. However, scenarios could be developed with the assumption that graduates unable to find positions in the ACT do not find them in the surrounding regions or other places outside the ACT, but remain available in the ACT from one year to the next.

11. **Graduates No** is derived from the previous two rows.

12. **Availability/suitability %** is the proportion of all graduates who are available and suitable for employment. It is generally assumed to be **80%** (consistent with the assumption underlying **Net separation %** and **Graduates %** that about 80% of graduates enter teaching soon after graduating, and a usually small proportion enter teaching later on). 'Available' means generally available for actual vacancies - not for only the most desirable positions.

13. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand, and is derived from rows 11 and 12 - that is, row 11 is the percentage indicated in row 12, of row 13.

14. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

15. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

16. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 5).

17. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 14).

18. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 13).

19. **Supply as % of demand** is row 14 as percentage of row 13. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus.

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TABLE 17: New South Wales & Australian Capital Territory, primary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. NSW total teachers	40 464	40 733	40 918	41 036	41 378	41 588
2. ACT total teachers	1 946	1 946	1 928	1 904	1 936	1 990
3. NSW total graduates (demand)	1 972	2 120	2 100	1 942	2 194	2 252
4. ACT total graduates (demand)	95	106	87	82	153	185
5. NSW total graduates (supply)	1 993	2 059	2 303	2 340	2 455	2 476
6. ACT total graduates (supply)	139	217	204	227	240	235
7. Total teachers	**42 410**	**42 679**	**42 846**	**42 940**	**43 315**	**43 577**
8. Total graduates (demand)	**2 067**	**2 226**	**2 187**	**2 025**	**2 347**	**2 437**
9. Total graduates (supply)	**2 132**	**2 276**	**2 507**	**2 567**	**2 695**	**2 711**
10. Surplus/shortage (number)	65	50	320	542	348	274
11. Surplus/shortage (% of total teachers)	0.2%	0.1%	0.7%	1.3%	0.8%	0.6%
12. Surplus/shortage (% of demand)	3.1%	2.3%	14.7%	26.8%	14.8%	11.3%
13. Surplus/shortage (% of supply)	3.1%	2.2%	12.8%	21.1%	12.9%	10.1%
14. Supply as % of demand	**103.1%**	**102.3%**	**114.7%**	**126.8%**	**114.8%**	**111.3%**

Source: Tables 1 and 15

7. **Total teachers** from row 5 in tables 1 and 15

8. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand.

9. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

10. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

11. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 7). This is a key indicator for school authorities to judge the magnitude of any shortfall or surplus they have to manage.

12. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 9).

13. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 8).

14. **Supply as % of demand** is row 9 as percentage of row 8. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus of graduates of graduates.

TABLE 18: New South Wales & Australian Capital Territory, secondary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. NSW total teachers	40 034	40 279	40 801	41 324	41 819	42 373
2. ACT total teachers	2 337	2 312	2 313	2 310	2 313	2 318
3. NSW total graduates (demand)	1 574	1 813	2 202	2 526	2 669	2 872
4. ACT total graduates (demand)	72	83	122	125	138	148
5. NSW total graduates (supply)	2 003	2 055	2 316	2 355	2 468	2 488
6. ACT total graduates (supply)	115	167	140	122	125	125
7. Total teachers	**42 371**	**42 590**	**43 114**	**43 634**	**44 132**	**44 691**
8. Total graduates (demand)	**1 646**	**1 897**	**2 324**	**2 650**	**2 807**	**3 019**
9. Total graduates (supply)	**2 118**	**2 222**	**2 456**	**2 477**	**2 593**	**2 613**
10. Surplus/shortage (number)	472	325	132	-173	-214	-406
11. Surplus/shortage (% of total teachers)	1.1%	0.8%	0.3%	-0.4%	-0.5%	-0.9%
12. Surplus/shortage (% of demand)	28.7%	17.2%	5.7%	-6.5%	-7.6%	-13.5%
13. Surplus/shortage (% of supply)	22.3%	14.6%	5.4%	-7.0%	-8.3%	-15.5%
14. Supply as % of demand	**128.7%**	**117.2%**	**105.7%**	**93.5%**	**92.4%**	**86.5%**

Source: Tables 2 and 16

7. **Total teachers** from row 5 in tables 1 and 15

8. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand.

9. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

10. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

11. **Surplus/ shortage (% of total teachers)** is row 15 as a percentage of 'Total teachers' (row 7). This is a key indicator for school authorities to judge the magnitude of any shortfall or surplus they have to manage.

12. **Surplus/shortage (% of supply)** is row 15 as a percentage of 'Total graduates (supply)' (row 9).

13. **Surplus/shortage (% of demand)** is row 15 as a percentage of 'Total graduates (demand)' (row 8).

14. **Supply as % of demand** is row 9 as percentage of row 8. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus of graduates of graduates.

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TABLE 19: Australia, primary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Australia total teachers	**123 750**	**124 795**	**125 749**	**126 323**	**127 409**	**128 383**
2. Aust.graduates (demand)	**6 230**	**7 263**	**6 761**	**6 612**	**7 723**	**8 140**
3. Aust.graduates (supply)	**5 635**	**6 274**	**6 741**	**7 050**	**7 165**	**7 208**
4. Surplus/shortage (number)	**-595**	**-989**	**-20**	**438**	**-558**	**-932**
5. Surplus/shortage (% of total teachers)	**-0.5%**	**-0.8%**	**0.0%**	**0.3%**	**-0.4%**	**-0.7%**
6. Surplus/shortage (% of demand)	**-9.6%**	**-13.6%**	**-0.3%**	**6.6%**	**-7.2%**	**-11.5%**
7. Surplus/shortage (% of supply)	**-10.6%**	**-15.8%**	**-0.3%**	**6.2%**	**-7.8%**	**-12.9%**
8. Supply as % of demand	**90.4%**	**86.4%**	**99.7%**	**106.6%**	**92.8%**	**88.5%**

Source: Tables 1, 3, 5, ,7 9, 11, 13, and 15

2. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand.

3. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties.

4. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

5. **Surplus/ shortage (% of total teachers)** is row 4 as a percentage of 'Total teachers' (row 1). This is a key indicator for school authorities to judge the magnitude of any shortfall or surplus that has to be managed nationally.

6. **Surplus/shortage (% of supply)** is row 4 as a percentage of 'Total graduates (supply)' (row 3).

7. **Surplus/shortage (% of demand)** is row 4 as a percentage of 'Total graduates (demand)' (row 2).

8. **Supply as % of demand** is row 3 as percentage of row 2. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus of graduates of graduates.

TABLE 20: Australia, secondary teacher supply and demand projections, 2000 to 2005

	2000	2001	2002	2003	2004	2005
1. Australia total teachers	**116 392**	**117 224**	**118 404**	**120 163**	**121 703**	**123 632**
2. Aust.graduates (demand)	**4 915**	**5 799**	**6 662**	**7 949**	**8 198**	**9 077**
3. Aust.graduates (supply)	**5 166**	**5 758**	**6 079**	**6 148**	**6 382**	**6 377**
4. Surplus/shortage (number)	**251**	**-41**	**-583**	**-1 801**	**-1 816**	**-2 700**
5. Surplus/shortage (% of total teachers)	**0.2%**	**0.0%**	**-0.5%**	**-1.5%**	**-1.5%**	**-2.2%**
6. Surplus/shortage (% of demand)	**5.1%**	**-0.7%**	**-8.8%**	**-22.7%**	**-22.2%**	**-29.7%**
7. Surplus/shortage (% of supply)	**4.9%**	**-0.7%**	**-9.6%**	**-29.3%**	**-28.5%**	**-42.3%**
8. Supply as % of demand	**105.1%**	**99.3%**	**91.2%**	**77.3%**	**77.8%**	**70.3%**

Source: Tables 2, 4, 6, 8, 10, 12, 14, and 16

2. **Total graduates (demand)** is the minimum number of graduates (who completed the previous year) required to meet demand.

3. **Total graduates (supply)** is derived from graduate projections provided for all initial teacher education programs by education faculties (or schools of teacher education). Graduates of early childhood and other programs that prepare graduates for non-school as well as school settings are appropriately apportioned.

4. **Surplus/shortage (no)** is the difference between demand and supply in number of persons.

5. **Surplus/ shortage (% of total teachers)** is row 4 as a percentage of 'Total teachers' (row 1). This is a key indicator for school authorities to judge the magnitude of any shortfall or surplus that has to be managed nationally.

6. **Surplus/shortage (% of supply)** is row 4 as a percentage of 'Total graduates (supply)' (row 3).

7. **Surplus/shortage (% of demand)** is row 4 as a percentage of 'Total graduates (demand)' (row 2).

8. **Supply as % of demand** is row 3 as percentage of row 2. It shows the number of expected graduates (as planned by the universities) as a percentage of the minimum number of graduates required to meet expected demand. Note that 'graduates' are those who completed their course at the end of the previous year. This is the key indicator of the magnitude of expected shortage/surplus of graduates of graduates.

TABLE 21: Commencing education students, 1991 and 1998

	1991	1998	Change 1991 to 1998 Number	%
ACU (NSW) est.*	605	431	-174	-29%
Avondale	100	22	-78	-78%
Charles Sturt	761	799	38	5%
Macquarie	675	505	-170	-25%
UNE & Southern Cross	1 089	939	-150	-14%
UNSW	656	267	-389	-59%
Newcastle	828	516	-312	-38%
Sydney	1 166	522	-644	-55%
UTS	996	663	-333	-33%
UWS	922	1 263	341	37%
Wollongong	390	430	40	10%
TOTAL NSW	**8 188**	**6 357**	**-1 831**	**-22%**
ACU (Vic) est.*	501	357	-144	-29%
Ballarat	264	89	-175	-66%
Deakin (plus Victoria College in 1991)	2019	612	-1 407	-70%
La Trobe	781	507	-274	-35%
Monash	872	880	8	1%
Phillip Institute (1991) / RMIT (1998)	512	395	-117	-23%
Melbourne	3178	1086	-2 092	-66%
VUT	150	182	32	21%
TOTAL VICTORIA	**8 277**	**4 108**	**-4 169**	**-50%**
ACU (Qld) est.*	265	189	-76	-29%
Griffith	1129	628	-501	-44%
James Cook	512	402	-110	-21%
QUT	1678	1261	-417	-25%
UCQ/CQU	307	595	288	94%
USQ	585	535	-50	-9%
Uni of Qld	468	353	-115	-25%
TOTAL QUEENSLAND	**4 944**	**3 963**	**-981**	**-20%**
Curtin	392	304	-88	-22%
Edith Cowan	1643	922	-721	-44%
Murdoch	359	276	-83	-23%
Uni WA	245	206	-39	-16%
TOTAL WA	**2 639**	**1 708**	**-931**	**-35%**
Flinders	424	348	-76	-18%
Uni of Adelaide	188	121	-67	-36%
Uni SA	1349	801	-548	-41%
TOTAL SA	**1 961**	**1 270**	**-691**	**-35%**
TOTAL TASMANIA (University of Tasmania)	**506**	**390**	**-116**	**-23%**
Batchelor	218	52	-166	-76%
NTU	374	228	-146	-39%
TOTAL NORTHERN TERRITORY	**592**	**280**	**-312**	**-53%**
ACU (ACT) est.*	63	74	11	17%
University of Canberra	580	373	-207	-36%
TOTAL ACT	**643**	**447**	**-196**	**-30%**
TOTAL AUSTRALIA	**27 750**	**18 523**	**-9 227**	**-33%**

Source: Department of Employment, Education and Training 1991, *Selected Higher Education Statistics*, AGPS, Canberra, Table 45; Department of Education and Training and Youth Affairs 1999, *Selected Higher Education Student Statistics*, Table 63.

* DEET/DETYA statistics for the Australian Catholic University are not provided on a state-by-state basis. The estimated statistics provided for ACU commencing education students in NSW, Victoria, Queensland & the ACT are based on incomplete data provided by ACU and the DEET/DETYA national ACU data.

TABLE 22: Pupil-teacher ratios, 1990, 1995 and 1999

Government schools				Change		
	1990	1995	1999	1990-95	1990-99	1995-99
NSW	16.3	16.5	15.2	0.2	-1.1	-1.3
Vic	13.2	15.1	14.9	1.9	1.7	-0.2
Qld	16.0	15.7	14.6	-0.3	-1.4	-1.1
WA	15.8	15.7	15.3	-0.1	-0.5	-0.4
SA	13.6	14.8	14.8	1.2	1.2	0.0
Tas	14.4	15.2	15.5	0.8	1.1	0.3
NT	13.2	13.4	12.8	0.2	-0.4	-0.6
ACT	15.0	15.3	14.6	0.3	-0.4	-0.7
Australia	15.0	15.4	14.9	0.4	-0.1	-0.5
Nongovernment schools				Change		
	1990	1995	1999	1990-95	1990-99	1995-99
NSW	16.2	15.3	15.0	-0.9	-1.2	-0.3
Vic	15.6	15.1	14.8	-0.5	-0.8	-0.3
Qld	16.9	16.0	15.2	-0.9	-1.7	-0.8
WA	15.9	15.0	14.7	-0.9	-1.2	-0.3
SA	15.7	15.9	15.4	0.2	-0.3	-0.5
Tas	15.8	15.6	14.9	-0.2	-0.9	-0.7
NT	15.5	14.7	14.4	-0.8	-1.1	-0.3
ACT	17.0	16.1	16.1	-0.9	-0.9	0.0
Australia	16.1	15.4	15.0	-0.7	-1.1	-0.4
All schools				Change		
	1990	1995	1999	1990-95	1990-99	1995-99
NSW	16.3	15.4	15.2	-0.9	-1.1	-0.2
Vic	13.9	15.1	14.9	1.2	1.0	-0.2
Qld	16.2	15.8	14.8	-0.4	-1.4	-1.0
WA	15.8	15.5	15.1	-0.3	-0.7	-0.4
SA	14.0	15.1	14.9	1.1	0.9	-0.2
Tas	14.7	15.3	14.6	0.6	-0.1	-0.7
NT	13.6	13.7	13.1	0.1	-0.5	-0.6
ACT	15.6	15.5	15.1	-0.1	-0.5	-0.4
Australia	15.3	15.4	15.0	0.1	-0.3	-0.4

Source: ABS *Schools Australia* Cat. No. 4221.0, Table 18 (1990), Table 21 (1995), Table 55 (1999)

TABLE 23: Teacher numbers, government and nongovernment schools and all schools, States and Territories, 1990, 1995 and 1999

Government schools				Change (number)			Change (%)		
	1990	1995	1999	1990-95	1990-99	1995-99	1990-95	1990-99	1995-99
NSW	48 275	52 805	55 359	4 530	7 084	2 554	8.6	12.8	4.6
Vic	40 938	35 835	37 839	-5 103	-3 099	2 004	-14.2	-8.2	5.3
Qld	24 988	26 729	31 021	1 741	6 033	4 292	6.5	19.4	13.8
WA	14 746	15 537	16 810	791	2 064	1 273	5.1	12.3	7.6
SA	14 865	13 149	13 373	-1 716	-1 492	224	-13.1	-11.2	1.7
Tas	5 132	4 663	4 913	-469	-219	250	-10.1	-4.5	5.1
NT	2 094	2 198	2 371	104	277	173	4.7	11.7	7.3
ACT	2 786	2 740	2 784	-46	-2	44	-1.7	-0.1	1.6
Australia	153 824	153 656	164 470	-168	10 646	10 814	-0.1	6.5	6.6
Nongovernment schools				Change (number)			Change (%)		
	1990	1995	1999	1990-95	1990-99	1995-99	1990-95	1990-99	1995-99
NSW	19 745	22 415	24 834	2 670	5 089	2 419	11.9	20.5	9.7
Vic	18 537	19 610	21 075	1 073	2 538	1 465	5.5	12.0	7.0
Qld	8 470	10 510	12 348	2 040	3 878	1 838	19.4	31.4	14.9
WA	5 007	6 083	7 117	1 076	2 110	1 034	17.7	29.6	14.5
SA	4 159	4 818	5 540	659	1 381	722	13.7	24.9	13.0
Tas	1 388	1 638	1 715	250	327	77	15.3	19.1	4.5
NT	433	602	667	169	234	65	28.1	35.1	9.7
ACT	1 345	1 483	1 559	138	214	76	9.3	13.7	4.9
Australia	59 085	67 159	74 855	8 074	15 770	7 696	12.0	21.1	10.3
All schools				Change (number)			Change (%)		
	1990	1995	1999	1990-95	1990-99	1995-99	1990-95	1990-99	1995-99
NSW	68 020	75 220	80 193	7 200	12 173	4 973	9.6	15.2	6.2
Vic	59 475	55 445	58 914	-4 030	-561	3 469	-7.3	-1.0	5.9
Qld	33 458	37 239	43 369	3 781	9 911	6 130	10.2	22.9	14.1
WA	19 753	21 620	23 927	1 867	4 174	2 307	8.6	17.4	9.6
SA	19 024	17 967	18 913	-1 057	-111	946	-5.9	-0.6	5.0
Tas	6 520	6 301	6 628	-219	108	327	-3.5	1.6	4.9
NT	2 527	2 800	3 038	273	511	238	9.8	16.8	7.8
ACT	4 131	4 223	4 343	92	212	120	2.2	4.9	2.8
Australia	212 909	220 815	239 325	7 906	26 416	18 510	3.6	11.0	7.7

Source: ABS *Schools Australia* Cat. No. 4221.0, Table 21 (1990), Table 24 (1995), Table 65 (1999)

Note: The data is for teacher numbers (persons), not full time equivalents. ABS does not disaggregate teacher numbers by primary and secondary.

TABLE 24: Age structure of primary and secondary teachers, New South Wales, Victoria, Queensland and Western Australia, 1996 (actual) and 2001 and 2006 (projected)

		Percentage in each age range									
	Year	< 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	> 65
NSW primary	1996	7.5	12.9	10.2	18.8	21.9	14.5	8.6	4.0	1.2	0.4
	2001	3.9	16.5	12.2	7.9	18.9	20.6	12.2	7.0	0.6	0.0
	2006	4.1	14.9	15.1	9.8	8.2	18.4	18.0	10.4	1.0	0.0
NSW secondary	1996	6.2	13.0	11.1	15.9	21.9	16.8	9.3	4.2	1.2	0.4
	2001	4.0	15.9	12.7	8.8	14.8	20.8	14.8	7.7	0.6	0.1
	2006	4.4	15.9	15.2	10.1	8.3	14.2	18.5	12.3	1.1	0.0
VIC primary	1996	5.8	11.2	10.3	18.3	24.3	16.6	9.7	3.1	0.6	0.1
	2001	4.4	16.6	11.2	7.6	17.3	21.7	13.3	7.6	0.4	0.0
	2006	4.1	15.2	15.2	9.0	7.9	17.0	19.1	11.3	1.1	0.0
VIC secondary	1996	4.0	10.1	13.2	16.5	21.0	18.5	10.9	4.2	1.3	0.3
	2001	3.0	11.5	10.1	10.9	16.2	21.0	17.1	9.5	0.6	0.1
	2006	4.4	15.2	12.2	8.0	10.3	15.6	18.6	14.3	1.3	0.0
QLD primary	1996	9.7	16.0	12.8	16.4	18.1	13.1	7.8	4.8	1.1	0.2
	2001	6.5	24.7	15.4	8.6	14.3	14.8	9.5	5.6	0.6	0.0
	2006	9.4	31.3	20.6	8.4	6.1	9.4	8.7	5.5	0.6	0.0
QLD secondary	1996	7.4	14.7	14.5	15.5	18.2	14.9	9.3	4.0	1.2	0.3
	2001	5.9	21.8	14.6	10.2	12.9	15.4	11.7	6.9	0.5	0.0
	2006	6.0	21.6	19.5	10.6	8.8	11.3	12.5	8.9	0.9	0.0
WA primary	1996	8.4	12.8	11.2	17.6	22.5	14.0	8.2	4.2	1.1	0.2
	2001	4.4	18.3	12.4	8.4	17.2	20.6	11.5	6.5	0.6	0.0
	2006	4.3	15.7	16.4	9.9	8.7	16.6	17.9	9.6	1.0	0.0
WA secondary	1996	6.7	13.4	13.5	15.5	17.6	16.7	9.8	5.1	1.4	0.3
	2001	5.2	19.6	13.6	10.0	13.6	15.8	13.8	7.6	0.7	0.1
	2006	4.6	18.0	18.0	10.7	9.3	12.9	13.8	11.4	1.1	0.0

Source: 1996 from ABS 1996 census custom tables; for method for 2001 and 2006 projections see notes for derivation of 'net separation' rates.

TABLE 25: Age structure of primary and secondary teachers, South Australia, Tasmania, the Northern Territory and the Australian Capital Territory, 1996 (actual) and 2001 and 2006 (projected)

		Percentage in each age range									
	Year	< 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	> 65
SA primary	1996	7.2	10.3	9.2	17.6	25.1	17.1	9.7	3.1	0.6	0.1
	2001	3.3	14.5	10.0	7.2	17.9	24.0	14.6	8.0	0.5	0.0
	2006	3.6	13.1	13.6	8.3	7.7	18.0	21.6	12.8	1.2	0.0
SA secondary	1996	4.2	9.6	9.7	15.0	23.1	22.0	11.3	4.1	0.9	0.2
	2001	4.0	14.5	10.3	7.5	13.7	21.4	18.8	9.2	0.6	0.0
	2006	3.8	14.2	14.2	8.6	7.5	13.8	20.0	16.6	1.4	0.0
TAS primary	1996	6.5	9.4	11.8	19.4	20.3	14.9	10.1	6.1	1.3	0.2
	2001	4.6	17.7	10.4	8.9	18.8	18.5	12.2	8.0	0.8	0.0
	2006	3.5	13.7	15.9	8.8	9.7	19.3	17.0	10.8	1.2	0.0
TAS secondary	1996	5.1	9.2	10.3	19.4	20.3	18.5	10.5	5.0	1.5	0.3
	2001	2.7	11.5	9.3	8.7	19.4	20.8	17.5	9.3	0.8	0.1
	2006	3.5	12.4	11.7	7.8	8.7	19.7	19.4	15.4	1.4	0.0
NT primary	1996	9.1	17.7	13.3	15.5	18.4	13.0	8.8	3.0	1.2	0.0
NT secondary	1996	6.2	13.5	14.8	16.2	17.2	17.4	9.4	4.1	1.2	0.0
ACT primary	1996	8.2	10.9	8.4	13.0	18.5	19.9	12.4	6.9	1.3	0.5
	2001	5.2	20.5	11.9	6.3	12.6	16.8	16.1	9.7	0.9	0.0
	2006	5.0	18.4	18.7	9.6	6.5	12.2	14.6	13.6	1.4	0.0
ACT secondary	1996	3.5	9.9	9.6	13.8	17.8	22.2	13.0	7.1	2.3	0.7
	2001	4.1	13.9	10.8	7.9	13.3	17.6	20.2	11.1	1.0	0.1
	2006	4.1	15.2	14.1	9.1	7.9	13.5	16.5	17.9	1.7	0.1

Source: 1996 from ABS 1996 census custom tables; for method for 2001 and 2006 projections see notes for derivation of 'net separation' rates.

Note: A common separation rate for each age range is applied in each State and Territory. Some States and Territories may vary from this. In particular, the Northern Territory has a generally higher separation rate (which has been used in the projection tables), and the age structures for 2001 and 2006 have not been estimated here because the method is not appropriate.

TABLE 26: Proportion of those with primary teaching qualifications who are teaching, 1996 (%)

Age range	NSW	VIC	QLD	WA	SA	TAS	NT	ACT	AUSTRALIA
20-24	73.5	56.5	74.8	76.4	67.9	87.3	76.7	73.6	70.0
25-29	66.9	52.1	66.5	63.6	63.4	86.4	70.3	69.1	62.6
30-34	52.9	46.8	57.4	51.8	54.0	79.3	57.0	52.9	52.5
35-39	56.8	52.3	58.2	54.6	58.8	83.5	61.0	47.4	55.9
40-44	59.4	56.8	57.4	55.7	64.0	85.6	56.8	56.0	58.3
45-49	53.0	46.8	50.8	50.9	55.4	83.5	50.7	55.4	50.9
50-54	45.5	37.4	44.9	44.2	40.5	74.2	53.5	46.3	42.6
55-59	30.6	19.4	30.5	30.4	29.0	44.9	27.9	39.0	27.6
60-64	12.0	7.5	12.4	13.6	8.4	16.4	12.3	16.5	11.0
Total	48.7	42.3	48.5	48.3	49.2	65.3	53.7	49.0	47.0

Source: ABS 1996 Census custom tables

TABLE 27: Proportion of those with secondary teaching qualifications who are teaching, 1996 (%)

Age range	NSW	VIC	QLD	WA	SA	TAS	NT	ACT	AUSTRALIA
20-24	76.0	58.3	79.8	75.4	69.6	80.8	83.3	55.7	72.1
25-29	68.6	51.2	68.5	66.5	63.3	72.9	67.7	60.1	63.0
30-34	56.6	49.7	61.8	56.7	50.3	58.3	48.1	49.7	54.8
35-39	57.8	49.0	58.3	51.8	55.5	68.3	49.1	52.5	54.6
40-44	60.3	53.0	56.1	54.4	56.9	61.6	53.6	50.4	56.7
45-49	55.7	53.3	52.6	53.0	50.8	57.2	56.3	49.0	53.7
50-54	47.4	48.1	48.1	47.9	40.9	50.0	49.4	41.9	47.2
55-59	33.2	28.6	33.9	39.8	30.3	35.8	17.1	33.3	32.3
60-64	15.0	15.1	14.3	18.3	12.0	25.0	20.0	9.8	15.2
Total	52.3	46.3	54.0	51.3	48.2	54.4	51.2	45.3	50.4

Source: ABS 1996 Census custom tables

FIGURE 1: Teachers as a percentage of all people with primary and secondary teaching qualifications in each five year age range, 1991 and 1996